1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

The term *polopolo* was equated to the term *inasi* (literally, share or portion). The *polopolo* ceremony was actually a sharing of the first fruits. 643 622 651 [782]

From the great chief Ata I obtained some information as to the presentation of first fruits to the Tui Kanokupolu, and the supervision of horticulture and fishing by the chiefs of the lineage Haa Ngata Motua, practices which Ata told me would apply also to the other lineages of to-day as well.

All vegetable and animal products within the territory directly controlled by the Tui Kanokupolu were tapu for that high chief. Two petty chiefs were appointed to make continual rounds of the territory to see that the common people were not utilizing those products without permission. These inspectors called Tui Pangai and Tui Sinoieiki were petty chiefs (*eikisii*) rather than matapules. They were appointed by Ata, and operated in the territory of the Haa Ngata Motua only, one of them in Pangai, the western part of Hihifo, the other in Sinoieiki, the eastern part. 643 622 651 262

If, in making his round an inspector discovered a fine bunch of cooking bananas, or breadfruit, or yams, or sweet potatoes which were regarded as suitable for the Tui Kanokupolu, he put a tapu upon it by sticking a sharp stick into the banana tree trunk, hanging coconut leaves on the breadfruit tree branches, by putting a stick into the ground near the yam or sweet potato plants. Of coconuts, only a special small kind called *kafakala* was reserved for chiefs. Such inspectors also reported to Ata, and through him to the Tui Kanokupolu, the amount of crops planted by the farmers, and as to whether or not they were sufficient. [784]

Pigs, like coconuts, needed no tapu mark put upon them. All pigs above a certain size were tapu to the commoners, even to their owners, and were reserved for their chiefs and for the Tui Kanokupolu. [231] [565] [784]

A commoner who broke the food tapus would be thrashed or possibly killed. The infraction was reported to Ata, who determined the punishment and ordered someone to administer it. There seems to have been no fear of supernatural punishment. [687] [565] [784]

Similar customs controlled the utilization of fishes. Large fishes caught by any of the people under the rule of Ata, must be brought to him. Especially fine fishes were sent by Ata to the Tui Kanokupolu. A fisherman caught eating a large fish might have his tongue pulled out, or be thrashed, or even killed. [226] [687]

The person whose duty it is to bring fishes to the Tui Kanokupolu bears the title of Ngalu Haatafu. He is appointed by Ata, being selected, as a rule, from the same family as the preceding incumbent. Benjamin One, called Ngalu since his appointment about 1912, succeeded his cousin. In addition to Ngalu, who delivers the fishes to the Tui Kanokupolu, are two petty chiefs: Faoa, a chief of the lowest order, who supervises the bonito fishing, and Latukefu who supervises the fishing for *vete*. [463]

1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

FISHING RIGHTS

The nearest approach to true communal rights lay in fishing grounds. The rights to fishing, whether close to shore or further out, belonged to those living on the adjacent coast. Most chiefs had land fronting on the water where their fishing operations were conducted. Every "commoner" who lived on a tract bordered by water could fish along his waterfront. The inland man without a waterfront on which to fish usually had "*tofia* brothers" (men under the same chief) living on the shore who supplied fish in return for yams, fruit, taro, and other inland products.

Sometimes an inland man poached at his own risk on another's waterfront. If apprehended, his traps might be destroyed and his fish confiscated. Sometimes, if fish were hard for inlanders to obtain, a large party would fish in force and depend upon their allied strength to protect them. But even then, the poaching would take place on the waterfrontage of the poachers' own chief.

If, as sometimes happened, a man fished in a canoe before the lands of a chief other than his own, he would then present his first catch (a large number of fish) to the chief, who might then allow the man to continue fishing for the day. A story is told of an inland man who fished in a canoe before the *tofia* of the first Tungi. When he landed his canoe, Tungi himself confronted him, bit each fish on the back of the neck and said, "These fish are mine."

At variance with these assertions are the statements of Okoa informants that the people of their island might fish anywhere in Vavau, and that claim to a fishing place is established by setting up on the reef a stick with a leaf attached—such a statement probably pertains to modern conditions only. Another example of communism at Okoa, which is probably modern, is the use of a boat of one or two tons burden which belongs to the whole village. The boat may be used by individuals for fishing. If the catch is large it is shared with fellow villagers, and in any event the mayor is given part of the catch.

The stone dam (*pae*) built across a channel outlet to a pool on the reef, to trap the fish seeking the sea on the outgoing tide, was said to be the property of the family group occupying the adjoining tract.

COMMUNAL FENCES, CISTERNS, AND WELLS

Another example of communal effort, at least in modern Tonga, is the fence (*afonua*) which surrounds some villages to prevent the pigs straying into the neighboring plantations and uprooting the plants. Each taxpayer in a village has a certain length of fence to keep in repair.

1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

Lime made from coral was habitually used to cleanse the scalp and hair and to stiffen the hair so it would more readily remain erect. 302 237

GENEALOGIES

In Tonga the genealogies of the great chiefs seem not to have been kept by the priests. These great genealogies were in the custody of the elderly woman of chiefly rank who memorized them and taught them to the young chiefs. With the adoption of writing, this custom of learning genealogies by heart has fallen into disuse. It is said that the women who were the repositories of the genealogies often discussed them among themselves and thus refreshed one another's memories. The genealogy which was supplied to me by the Queen of Tonga was set down from memory by the Tamaha Amelia with the aid of the chief named Shadrach Mumui. As soon as these two learned to write they decided to record the genealogies of the great chiefs and this record which was begun more than 75 years ago has been continued down to date. 814 [793] 565 887 [212]

From a practical standpoint, the Tongans no doubt exhibited as much interest in genealogical information as did the other Polynesians, but from a theoretical and mythological standpoint they seen not to have evolved any great genealogical fictions, such as characterized the Hawaiians and other eastern Polynesians. In Tongan the ancestor is called *tefito* (literally, root, origin). King George I, in speaking of the present Prince Consort Tungi on the occasion of his birth, remarked, "This child is a tangled myrtle (*maile fihi*)," meaning that he combined many lines of descent, notably from the Tui Tonga on his mother's side, and from the Tui Kanokupolu on his fathers. [171] 643 602

PERSONAL NAMES

Hundreds of Tongan personal names were recorded. The meanings of a number of these have been worked out by Miss Beatrice Shirley Baker and are published below. No doubt many of these personal names are nicknames, others are true names given in infancy, and a few are titles. As a rule, the same name is applied indiscriminately to males and females. The Tongans seem to give individual names, not only to persons and places, but also to animals and ships. Their application of names to ships seems to be very similar to the European. McKern (43) publishes a list of ancient ship names. 551 [124] 552

Dogs kept as pets were named, though I have no examples to offer. The great mythical dog of Moturiki, Fiji, which killed Maui, was named Fulupuputa, which means "stout hair." An ancient tortoise, which is the property of Queen Charlotte, is known by the name of Tui Malila. (Malila is a place in Lapaha, Tongatabu. It is said that the Tui Tonga was anciently [231] [773] 552 643 231

1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

called Tui Malila.) This tortoise is said to have been left by Captain Cook but as a matter of fact it was left sometime in the nineteenth century by a passing sea captain.

The Tongan word for name is *hingoa*. A title is called *hingoa fakanofo* (appointment name), a nickname *hingoa fakatenetene*. In the matter of names the Tongans are very open-minded and are keen to accept foreign words as personal names. Evidence of this tendency is to be found in the large series of English Christian names which have been Tonganized. and now precede the Tongan personal name. The desire for new names results in some curious usages. Thus, I heard of a child in Nukualofa who was named Saiti after a Javanese who happened to be living in the house where the child was born. This name Saiti is likely to be perpetuated; perhaps it will be bestowed some years later on a child which the present bearer of the name may adopt. I encountered another Tongan child who bore the name Alameta, because a relative had voyaged to California and visited the city of Alameda.

To apply the names of chiefs to commoners is customary, and is sanctioned by the chiefs. Thus a Fijian in Nukualofa has the name Ulukalala, which was bestowed upon him by the great chief Ulukalala in place of the Fijian's former name Usaia.

In ancient times there would seem to have been occasional exchanges of names such as were prevalent in the Society Islands, but that such exchange was common in Tonga I very much doubt. The single example of exchange which came to my notice is in connection with the title Tuita (p. 138).

Name givers were usually but not necessarily close relatives of the child named. Europeans are often given Tongan names by Tongans. Thus, one of the sons of E. E. V. Collocott was given the name of Tokeimoana by the Queen. Mr. and Mrs. McKern's son, born in Tonga, was named Namoa by the great chief Ata, this being the name of one of the sons of the Tui Kanokupolu Mumui. The reason for selecting this name was that Ata's mother is a descendant of Mumui. In Vavau I met a woman of high rank, the daughter of the late Tui Ḥaa Teiho Paul Havea, who had been given both a regular name and a nickname by King George I. She was named Toafilimoeunga after the sister of the Tui Kanokupolu Vuna, and was given the nickname Taimi (English time), the significance of which will be discussed (p. 234).

Adoption invariably brings with it a new name which might in one sense be considered a nickname. The origin of the name Ulamoleka is an illustration. This is a name which the present Ata bore, following his adoption by the daughter of the *toutai* Ula. Ata's original name was Piutau. The Ulamoleka for whom the present Ata was named was originally called Ula,

1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

Certain natural phenomena, though not being regarded as ominous, sometimes caused alarm. Earthquakes were believed to be caused by the movements of one of the Maui who is thought to support the earth. The apparent movement of the sun to the northern tropic was observed, though not the motive for alarm or ceremony. When the sun was farthest north the season was called *faahi tau momoko* (cold season). It marked the beginning of the year and the time of yam planting. When the sun was at the southern tropic the season was called *faahi tau mafana* (warm season).

An expected eclipse of the moon which occurred in October, 1920, though causing no alarm, was regarded as indication of strong wind in a few days. The moon eclipse is called *mate mahina* (death of the moon). Similarly an eclipse of the sun is called *mate laa*. Apparently the infrequency of sun eclipses is one reason why they cause alarm. One occurred in 1918 and was evidently the first seen by many people. Although they had been forewarned by a visiting astronomer, intense alarm prevailed. The informant who had never seen one before, and who was in the bush at the time, ran for his village as fast as possible. He said the ancient belief was that the sun was a god and was angry with people and showed anger by going out. Evidently some of this belief still survived in 1918.

The activities of certain birds and lizards were believed to be especially pregnant with indications of forthcoming events. The Tongans, even to-day, take cognizance of these movements to an extent that suggests the Malaysian observation of animal movements. The gecko (*moko*) is everywhere in Tonga an omen animal. It is regarded particularly as a barometer of impending weather conditions. If it remains quiet, good weather is indicated, if it is very active, a storm is imminent. This little lizard, sacred to the god Tui Haa Fakafanua, was taken aboard vessels anciently as a barometer. Another weather indicator is the frigate bird (*lofa*), rare in Tonga, whose appearance presages a gale or hurricane. The barking of dogs at night without evident cause is a sign of the presence of ghosts. Dogs bore place and personal names anciently and were fondled and talked to by their masters (usually chiefs). There was no belief that it was dangerous to address conversation to a dog.

Birds played by far the most important part as omen givers. The calling of the owl (*lulu*) immediately after lamplighting is a sign of a pregnant woman in the house, and if the owl calls over a house in the middle of the night, it is a sign of impending death. If the gallinule (*kalae*) cries close to a house, it is also considered a notification of impending death. A number of *fulehcu* birds (*Ptilotis carunculata*) flying together in a particular formation is called *fata* (bier) and is a sign of death. Another evil omen of the *fulehcu*, called *sipa*, consists in a number of them sounding the note of alarm. If a cock crows, soon after the time when the fowls

2: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

things of little value; and he was exceedingly sorry he had not secured all the dollars out of the Port au Prince, before he had ordered her to be burnt: "I had always thought," said he, "that your ship belonged to some poor fellow, "perhaps to king George's cook*; for captain "Cook's ship, which belonged to the king, had "plenty of beads, axes, and looking-glasses on "board, whilst yours had nothing but iron "hoops, oil, skins, and twelve thousand *páänga* "as I thought: but if every one of these was "money, your ship must have belonged to a "very great chief indeed."

Finow and his chiefs having now remained at the Hapai islands nearly six weeks, resolved to return to Vavaoo, and the following day set sail: the prince and Mr. Mariner accompanying them. As soon as they arrived at Vavaoo, the king gave orders that all the dogs in the island, except a few that belonged to chiefs, should be killed, because they destroyed the game, particularly the *kalai;* after which he promised himself great sport with his favourite bird. As the breed of dogs was scarce at these islands, there were not more than fifty or sixty killed on

games at the end of the second volume): they supposed dollars to be used among us for a similar purpose.

* At these islands a cook is considered one of the lowest of mankind in point of rank.

8: Collocott & Havea M, I-5 (no date) 1922
OU9 Tonga OU9

539 245 524 857 **21. Faka-hopo taokave:** Making *taokave* jump.

The *taokave* is a kind of coconut which bears small fruits, but carries a large number on the bunch. As the fruits mature the press of so many on the same stalk constantly forces nuts off the bunch. There is a boys' game called *faka-hopo taokave*, which consists in a number of boys lying down side by side all pressing in towards the center. Any boy who gets shoved out of place on to the top of the other must then go to one of the [578] ends. The expression is used proverbially of a number of people giving someone the cold shoulder, crowding out an individual whom they do not want.

539 [137] **22. Fakatuamelie ki he ete mea oku tau he fuu telie:** Relying confidently on my thing that is hanging in the *telie* tree (*Terminalia catappa* or *T. litoralis*).

There is an old story about one who used to hang food in a tree for another to get. If the food were good and tasty it was hung in a *telie* tree, but if not very appetizing it was put in a *tavahi* tree *(Rhus taitensis?)*, The person for whom these supplies were left always anticipated with confidence that what he got from the *telie* would be first-rate, but never expected anything very good from the *tavahi*. Used generally of relying with full confidence on anybody or anything. (See No. 23.)

23. Fakatuatamaki ki he ete mea oku tau he fuu tavahi: Without confidence in my thing that is hanging in the *tavahi* tree.

To expect little good from any person or thing. (See No. 22.)

539 797 231 554 **24. Feji lou-ji:** Breaking off *ji* leaves.

This is recent, and is said to owe its being to the missionary's cow. The leaves of the *ji* (*Cordyline terminalis*) are used for cow feed, and a man who wanted to get into the missionary's good graces would recommend himself by his readiness to get food for the cow. Used generally of ingratiating services.

539 245 **25. Fokotuu niu:** Piling up coconuts.

Coconuts are very plentiful in Tonga, and large heaps are gathered. Applied to that which is in great quantity.

539 461 **26. Foui ne fai:** The *foui* tree did it.

This is the literal translation following the story told of the origin of the expression. The story is that a man and his wife lived together in a compound fenced all round, but at one spot a *foui* tree growing just outside the boundary leaned over within the compound. The woman often asked her husband to cut this tree down, but he procrastinated until at length a man of irresistible charm climbed up the tree and, thus gaining access to the inside of the compound, successfully paid his addresses to the lady of the house. To her husband's wrath she retorted that his own

8: Collocott & Havea M, I-5 (no date) 1922
OU9 Tonga OU9

145. Liu ka moko: Lizard climbing upside down. 539 825 554

The lizard comes down a tree head first, and there is occasionally a man so skillful in climbing that he is able to imitate the reptile in this. To such a man this expression would be applied, but it is used generally of one who has some special way of his own of doing some particular feat or who possesses some extraordinary skill that enables him to bring off feats that the ordinary mortal would scarcely attempt.

146. Moko looa: Choking lizard. 539 825 [264]

Applied to a person whose neck is stretched out like that of the lizard in his distressful attempts to swallow. (Compare Nos. 167 and 177.)

147. Kuma aka ki he pusi: Rat kicking at the cat. [571] [157]

Generally of the weak behaving presumptuously to the strong.

148. Pekopeko a pusi kai moa: Quiet mournfulness of a cat that eats fowls. 539 825 829 577 157

The hypocrisy of one whose sad-eyed propriety in the presence of others is belied by the mischief to which he readily turns when free from observation is likened to the conduct of the cat whose demure abstention from chicken flesh does not outlast the presence of human observers. (The cat, with its English name *pusi*, is a late introduction.)

149. Pakau a puaka tuu a: Leanness of a pig kept in a sty. 539 825 231 262

The pig kept in a sty does not become so fleshy as the pig allowed to wander freely, but when put to the test of eating the pig from the sty is found to have more fat on him than his brother who enjoyed greater liberty. So used of that which is lean to the eye but is found to have much fat.

150. Puaka ne maa toe fakapelepela: A pig that was clean again covered with mud. 539 825 231

Equivalent to the Biblical saying about the sow that had washed turning to wallowing in the mire, and possibly a translation of it.

151. Pukepuke a fufula: Grasping a big fat pig.

This is a task that demands the whole of one's strength and care. Tradition says that a big prime pig used to be kept in a sty in Taanea in Vavau, and that Maui Atalanga and his son Maui Kijikiji went to get it. As the younger Maui went to lay hands on the animal his father exhorted him to grasp it firmly lest it escape. This incident, however, does not seem to be claimed as the origin of the expression.

152. Hage ha fononga pulumokau: Like a troop of cattle.

Pulu-mo-kau, bull-and-cow, is used as a name for either bull or cow. It is of course recent. Applied particularly to great waves at sea and also generally to large things. [823]

8: Collocott & Havea M, I-5 (no date) 1922
OU9 Tonga OU9

539 825 **153. Hange ha pulu kuo ta-halai:** Like an ox that is struck badly.

231 152 Obviously modern, since the introduction of cattle. The picture is that of a slaughterer who has missed his aim and only wounded the animal. The ox in its pain bellows aloud. Applied to one who laments or weeps without restraint, at the top of his voice.

539 825 231 183 **154. Taupuji hosi:** Touching horse.

It is possible that the latter part of the first word is the introduced name for cat, *pusi*, in which case the literal translation would probably be, Cat touching (perhaps fighting) horse. This, however, is by no means certain. The phrase is applied directly to a child taking liberties with a horse, with the chance of earning a kick by his temerity. It is also used generally of running into unnecessary danger. The expression dates from the introduction of horses and would seem to have originated when horses were still new to the Tongan people, and objects of more or less awe. [192] The Tongans of today, even quite young boys, are fearless riders.

539 825 571 183 **155. Ji namu tae feongoongoi:** To kill a mosquito without giving warning (more literally, without mutual understanding).

If one sees a mosquito on a companion and gives it a slap the kindly office will perhaps not be appreciated if the blow takes the human recipient too much by surprise. Instead of gratitude anger may be evoked. So one must be sensible about the way in which even the best meant services are rendered.

539 825 **156. Ngali ha liha:** Like a nit.

Rather an abusive way of alluding to small things.

157. Oji e neveneve: The *neveneve* will be finished.

[802] A phrase meaning very many. The *neveneve* is the nest and young of one of the spiders found in Tonga. The nest when opened is always found filled with a very numerous progeny, and so it is said of a great multitude that one will sooner finish counting the *neveneve* than be able to reckon so large a number.

158. Oku lau pe e he mokohula oku ikai ha ua oe lalo takapau: The earwig reckons there is no place like under the mat.

[829] The earwig lives under the mat and if disturbed runs back there for shelter. To him this is the finest place in the world. Used proverbially of out-back folk who have no conception of anything finer than their own restricted surroundings.

539 825 571 **159. Tuakoi a ofato:** Mutual support of the *ofato*.

The *ofato* is a grub that makes its dwelling in rotten wood. In the Tongan group it is apparently found only, or chiefly, in Niua Foou. These grubs, however close together they may lie, never quite touch and will be

9: Collocott M-5 (no date) 1922 OU9 Tonga OU9

DIVISIONS OF NIGHT AND DAY

Following are a number of terms descriptive of various periods 805
of the night and day, forming a more or less rough and ready time system. Starting from sunset and advancing through the night and the succeeding day these terms are:

1. **To ae laa:** Sunset.
2. **Fellollongaki:** Recognizing. There is still sufficient light for people to recognize each other at a considerable distance.
3. **Uuli-kelekele:** Dark earth. It is now a little darker, and the face of the earth is begining to appear black.
4. **Femauaki ae pouli:** Dark obtaining everywhere. The darkness is enveloping all things.
5. **Tu mama:** Lamp lighting. Doubt is expressed as to whether or not [373] this is ancient, though the Tongans employed artificial lighting before the coming of Europeans.
6. **Ha ae otu kaveinga:** The ranks of the constellations appear.
7. **Kau pouli:** Darkness bodied forth, black night.
8. **Tuua-po:** Night standing (?). Frequently with the addition of *malie*, exact, Tuua-po malie. The middle of the night.
9. **Vale po:** Night of no account (literally); indicates the same period of far-advanced night as Tuua-pomalie. This term relates perhaps primarily to dances and games, indicating that the night is so far spent that the main part of the amusements is over and the chief spectators and actors gone. What remains is of no account, the unconsidered amusement of such as choose to prolong the entertainment. This explanation though offered by a very intelligent Tongan seems very doubtful.
10. **Mafuli ae Kaniva:** The Milky Way turned. The Milky Way has turned so far that it is pointing to the east where the sun will soon rise.
11. **Moa mua:** First cock. Earliest cock crow, probably considerably earlier in Tonga than in higher latitudes.
12. **Tataki aho:** Leading in day.
13. **Fakaholo-fononga or Fakahala-fononga:** Making journey advance. This indicates the appearance of a star which is known to rise not long before dawn. Its appearance cheers travelers with the promise of approaching day.
14. **Moa mui:** Later cock (crow).
15. **Fetuu Aho:** Day star. The name is applied to Venus during her early morning appearances more than to any other star, but may indicate any bright star whose rising closely precedes the dawn.
16. **Ata a puaka:** Shadow of pig. This phrase is applied to much the [231] same time as that marked by the appearance of the day star. The

9: Collocott M-5 (no date) 1922 OU9 Tonga OU9

805 [231]

idea is said to be that this is the time when the pigs wake and begin to move about; there is not yet enough light for them to be distinctly visible, but they appear merely as dark blots or shadows.

17. **Ata:** Shadow, slight appearance. This is explained in the same way as the preceding, but with the reference to men instead of to pigs.

18. **Mafoa ae ata:** Breaking of the shade; possibly, crack of the upper air. Dawn.

19. **Hengihengi:** Very early morning.

20. **Maa ae aho:** The day clear. Just about sunrise.

21. **Hopo ae laa:** Sunrise.

22. **Uhu,** a general term for the early morning.

23. **Pongipongi,** a general term for about sunrise to midday, like the English morning.

[231] 24. **Fangai-lupe:** Feeding pigeon. Time for those in charge of the tame pigeons to feed the birds. For Samoa this is about 9 a. m.[11]; for Tonga Baker[12] gives it as about 9 till 11 a. m.

25. **Pale ki hahake:** Slanting to east. The morning hours before the sun has come to the meridian.

26. **Tuutonu malie ae laa:** The sun standing straight, that is, midday. Another expression for this is Hoata or Hoata malie.

27. **Pale ki hihifo:** Slanting to west. The sun has now passed the meridian. Afternoon.

28. **Efiafi:** Afternoon. A general word, usually applied to late afternoon and frequently to the earlier hours of darkness, like the English evening.

29. **Hopo ae moa:** The fowl jumping, that is, the fowl going to roost. Although clocks have become fairly common, yet the Tongans frequently express the time of day by the position of the sun. An expression for "now," "this present time," is *feitun laa ni*, this place of the sun. Frequently in answer to a question as to when a thing did or will occur, the Tongan points to the sky and says, the sun was, or will be, there.

Other Tongan expressions are:

Apongipongi, tomorrow; Anoiha, the day after tomorrow; Moitolu, three days hence; Aneafi, yesterday; Aneheafi, the day before yesterday; Tua-aneheafi, the day before the day before yesterday.

MISCELLANEOUS TERMS

821 1. **Tapukitea,** Venus when she appears in the evening (compare Samoan *Tapuitea*, the evening star).

[11] Pratt, op. cit. See the word *fagailupe:* Brown, op. cit., p. 348.

[12] Baker, S. W., An English-and Tongan and Tongan and English Vocabulary, Auckland, 1895. See the word *fagailube.*

13: Beaglehole & Beaglehole E-5 (1938-1939) 1941
OU9 Tonga OU9
Vavau
Pangai

plants. The above staples would be planted as required in such a way as to keep the amounts and proportions fairly constant. 241

Such is the fertility of the Pangai soil that only a small part of a man's *api* is used for garden-purposes. Thus Biukala controls three *api* which total about fifty acres. He allows a relative to garden two acres of one *api*. The remainder of this *api* is given over to bush and coconuts. The second *api* is not cultivated but is used for coconut-production. On the third *api* Biukala gardens about three acres for his own household needs, taking coconuts from the remainder. From these three *api* Biukala thus supports his own household and that of a relative as well as securing, under optimum conditions, about twenty-five tons of copra each year. Most villagers with their normally small *api* can easily produce enough food for their households (if they are reasonably industrious according to Tongan standards) and can also expect to obtain up to five tons of copra each year. 241 423 311

Such also is the fertility of the soil that there appear to be few beliefs, if any, of a magical nature associated with garden cultivation. The villager knows full well that most of what he plants will grow. Insect pests, high winds and hurricanes, excessive rain or excessive dryness will affect his harvest from time to time. But it is convenient today to look upon these natural events as God-sent against which the skill and hopes of man avail nothing. Similarly the influence of government agricultural experts and of agricultural teachers in the government and mission-colleges tends to inculcate a scientific fatalism where religious fatalism leaves off. Neither agricultural art nor religious excuse, taken singly or together, leaves much ground for specifically magical belief or practice. Garden magic therefore, is conspicuously absent in the emotional and intellectual make-up of the average Pangai cultivator. 241 789 [242] [654]

LIVESTOCK

Most households in the village own at least several pigs. These are necessary not so much for ordinary food-consumption but in order to fulfil feast obligations whenever these fall due at times of birth, marriage, death, visits of 231 504 529

13: Beaglehole & Beaglehole E-5 (1938-1939) 1941
OU9 Tonga OU9
Vavau
Pangai

231 special kin, church-thanksgivings, and the like. It is well
574 to be prepared for these possible functions with pigs on hand.
527 Otherwise the pigs will have to be bought from whomsoever can be persuaded to sell. The price is likely to be high. Biukala, to take a typical case, has now five pigs, three sows and two boars. During 1938 he killed ten pigs: six for his
[554] son's first birthday (he also purchased an additional large
[565] pig for this feast, thus signalising with a memorable feast the prestige of his high status among the other commoner families of this village), two for Christmas celebrations, and two sucklings which he sold when temporarily short of ready
[262] cash. No feast can claim to be a feast without the service of pork. Hence the premium on the keeping of pigs.

231 Most village households also own at least one horse.
492 This is most useful for visiting distant villages, for riding (bareback) to and from the plantation, and more particularly for use as a pack animal in bringing back heavy loads of food and firewood to the village from the plantations.

231 Many households possess a few chickens which are used
[235] as an occasional food relish and for feasts. The eggs, if any,
[262] may be sold for a pittance to the trading station, the manager
[432] of which takes them in turn to Neiafu where they are sold from the big stores to the European residents. Two families have several goats, useful for feast-occasions. The village overseer owns two cows and a bull. At rare intervals he sells a cow or a calf to a butcher in Neiafu. He slaughtered
[272] one cow himself for the birthday-feast of his son. Neither
[237] milk nor manure are used. The animals have mostly prestige value.

Pigs are nominally supposed to be kept inside enclosures in the village. They usually wander round the village, unhindered, unhampered, and occasionally venture into the bush where they often play havoc with the gardens. They are usually fed on mature coconuts, specially if fattening is necessary for a forthcoming feast. Otherwise they root up the free village lands hunting for roots and wallowing in the consequent mud baths during the rainy season. Goats, cows, and horses are kept tethered in the plantations where they find enough green foods to keep them in good condition.
[857] Chickens are semi-wild, roosting in the trees and only to be

13: Beaglehole & Beaglehole E-5 (1938-1939) 1941
OU9 Tonga OU9
Vavau
Pangai

caught when wild-eyed, shrieking children are allowed to hunt them down.

There are a few dogs and a few cats in the village. The villager however, shows little interest in animals that are neither a potential source of food nor of value in lightening the burden of work.

There is no snaring of wild birds nor any attempt to make wild birds a part of the dietary. Flying-foxes are abundant on the higher cliffs of the island. Only one man in the village, a native of Niuafo'ou, shows any interest in these as an article of food. He occasionally traps them by knocking them with a pole into a net. None of the villagers has bothered to learn the technique. Part of the reason for this may lie in the fact that in ancient Tonga the flying-fox was one of the animals sacred to the Tongan deities. Possibly there has been a survival of this *tapu* attitude toward the flying-fox even though the villager is not aware of the reason for this attitude.

Economic Education

The growing child is inducted into the economic activities of the group very gradually and without many tears. He or she takes on economic duties according to the strength and skill at the moment. Thus, the six year old girl can start a fire and wash a few clothes though she will as yet make no attempt at cooking. The eight or nine year old boy is already being sent independently to the bush plantation to bring back food and firewood. By this age he is certainly capable of rendering assistance to the household in agricultural work. How much assistance he does render depends largely on the make-up of the household (on the number, that is, of able-bodied adult men in the group) and his ability to disappear with a gang of playmates whenever he senses his services may be in demand. A girl of twelve is already a good cook and housekeeper although she will not yet have learned to make mats. She will begin to learn mat-making techniques between the ages of twelve and sixteen, depending upon the interest of the mother as well as of the girl herself and her industriousness. She will have learned already the techniques of beating out bark cloth though the skills involved in stencilling such cloth and preparing the

13: Beaglehole & Beaglehole E-5 (1938-1939), 1941
OU9 Tonga OU9
Vavau
Pangai

the four records were used in the form of coconut-cream in which the staples were boiled. No informant bothered to list the number of drinking nuts used because, for him, the nuts were equivalent to water in the diet. The meat eaten was canned. The fish eaten was mostly fresh, helped out by canned salmon and herring. The reef-food eaten as a relish by two of the families included shell-fish, jelly-fish, octopus, seaweed and other edible reef-material.

In addition to this food actually consumed by members of the household, further food was on some days collected from the gardens and distributed in the gift-exchange. Thus family B was visited for two days by the sister of the household head, her husband and two children. When these visitors left, the household head presented them with a gift of about fifteen pounds of *taro* and one large pig. Food to feed the pigs would also have to be collected: about fifty mature coconuts for each pig would be the amount used in this connection.

The specific amounts of food harvested and used by one of these families (household D) is given in the next table.

TABLE 7.—HOUSEHOLD FOOD

Date	Time	Way Prepared	Food—Number of Tubers *Taro*	Plantain	Green Bananas	*Kape*	*Manioke*	*Papala*	Reef Foods Baskets
Jan. 23	Morning	Boiled	30	13	30	—	—	—	1
	Evening	Boiled	20	10	25	—	—	—	—
Jan. 24	Morning	Boiled	40	15	45	—	—	—	1
	Evening	Boiled	20	—	40	—	—	—	1
Jan. 25	Morning	Boiled	45	—	50	—	—	—	1
	Evening	Boiled	30	—	40	—	—	—	1
Jan. 26	Morning	Oven	50	—	—	2	—	15	2
	Evening	Boiled	—	50	17	—	—	—	—
Jan. 27	Morning	Boiled	37	—	40	—	—	—	—
	Evening	Boiled	29	—	20	—	—	—	—
Jan. 28	Morning	Boiled	50	22	19	—	—	—	—
	Evening	Boiled	25	17	—	—	—	—	—
Jan. 29	Morning	Oven	—	—	—	7	30	10	1
	Evening	Boiled	—	—	—	3	—	—	—

This table suggests very vividly the dietary of the Pangai people. For five days there is a steady diet of *taro*, plantain, and green bananas with additional shell-fish relish. For each meal of these five days the staples were prepared by boiling in a kerosene tin with coconut-cream (64 mature

13: Beaglehole & Beaglehole E-5 (1938-1939) 1941
OU9 Tonga OU9
Vavau
Pangai

in the social life of the individual or group will be described. Here the various kinds of feasts may be classified in order to show the status-hierarchies that are symbolized by feast-occasions. The types of feasts required by specific occasions are named after the size of the pig and the size of the *kava* root that are considered necessary for this occasion. To the villager a pig is not merely a pig and nothing else. The pig has value as a source of food. It has greater value, however, as the symbolic expression of the struggles of a household to do what is fit and requisite in expressing its social status on feast-occasions.[14] The villager rarely talks of a pig, generically. He talks of this pig or of that pig as being a *toho* or a *hula* or a *ha'amo*, using these terms to express the hierarchy of feasts which pigs of various sizes will be called on to grace. Pigs are carefully nurtured and fattened by a household according to the schedule of likely future social obligations. When one of these obligations is carried out with a pig of obligatory size, or with a pig of larger size if there is urge to ostentatious display, then the household is satisfied that it has not failed in that implicit, but nonetheless precise, measure of the give and take that is basic to the functioning of reciprocal obligations.

The hierarchy of feasts together with the ancient and modern occasions for their display, are as follows:

Umu puaka toho: feast with a pig and *kava* root of *toho* size. The pig is a fully-tusked boar or a very large-sized sow. This feast is held for such varied occasions as first, the feast given by an important father at the wedding of his favourite child; second, the feast contributed by the village as part of its gifts should the Queen of Tonga visit Vava'u; third, the feast (though it would be somewhat ostentatious in this connection) given by a child should the mother come to visit from another part of the kingdom; finally, the feast given to mark the occasion of the purchase

[14] Gifford (*Tongan Society*, p. 108) makes the following statement: "An example of what would seem an opprobrious epithet for a group of people is Puaka Haa Ngana (Pigs of the Lineage of Ngana)." It is highly doubtful whether a Tongan would regard this lineage-name as opprobrious. To the villager pigs are not opprobrious or common or vulgar: they are both glamorous and glorious! The name Puaka is a not uncommon personal name. None of the villagers felt that such a name meant anything insulting. It was just a name—and nothing else.

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

XIV.

AMATEUR LAW-GIVING.

671 797 645 THE dismissed Premier was not only a spiritual and temporal dignitary, he was also the lawgiver of Tonga; yet it was only in the most limited sense that he united the qualities of Moses and Melchisedec.

It has been the fate of Tonga to furnish the vile body on which the legislative experiments of amateurs have been tried. The first written code of law in Tongan history was promulgated in Vavau in 1839, and, crude though it was, it may be doubted whether it was not far better suited to the people than the elaborate but often incoherent effusions of the missionary lawyers of later days. It was King George's own composition, and it was intended for his own people only, to be administered by judges of his own race. There was a long preamble filled with Biblical quotations, after which follow a few plain straightforward clauses such as the following:—

It is my mind: That the land should be brought into cultivation and be planted. Hence, I inform you it is unlawful for you to turn your hogs outside the sty. If a hog be found

671 421 231

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

eating the yams, or destroying the produce of the land, the owner of the hog shall be at once informed that he may shut the hog up, and he shall restore whatsoever be damaged. If the owner neglect to take warning, either in confining his hog, or in recompensing the damage done, and the hog be again found eating the yams, it shall then be lawful to kill the hog, and the owner of the plantation shall have the carcase for his own.

A giant yam.

By the end of 1835 the original code had been so tinkered by the missionaries that little of the original remained. Their hand is detected in the following excellent provision, designed to check the growing indolence of the people, and turn their labour into a channel of profit to the reverend legislators:—

XXXVI. *The law relating to men.*—You shall work and persevere in labouring for the support of your family as well as yourself, and in order to contribute to the cause of God and the chief of the land, and each man shall find a piece of land to cultivate. Any man who is not willing to work, shall not be fed nor assisted, all such persons being useless to the land and its inhabitants, and unprofitable to their friends.

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

gotten, the primitive method of raising weights is likely to prevail in that district. I asked the old men what they did with heavier weights still, and they immediately answered, "We make the platform of earth, and dig it away to make the log tip up." No doubt, when the log or stone is on end, they dig away the platform, throwing the earth into its old position, so that no trace remains. Having seen the whole process, I shall continue to believe that Stonehenge was built like this, until some one offers a better explanation.

There is a legend that the Haamonga stones were brought by the god Maui in a gigantic canoe from Uea (Wallace Island), and that you may see there great holes in the rock whence they were quarried. A European even assured me that the stone is of a kind not found in Tonga at all. This part of the story at least is not true, for the stone is mere coral, hardened by exposure, of exactly the same quality as the reef close by.

In discussing the peculiarities of man I have altogether neglected the lower animals in Tonga. The only indigenous mammals were a small field-rat, a fruit-eating bat or flying fox, and a small cave-bat. The rat, having no enemies but man, swarmed throughout the islands: so numerous were they that it was a chieflike sport to shoot them in the paths with a bow and arrow. They have almost vanished now before the cats, dogs, and their voracious Norway cousin, and rat-shooting is now as extinct as bear-baiting in England.

The first foreign arrival was of course the pig. It is a popular fallacy that Captain Cook, among his other benefi-

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

cent actions, introduced the pig into the islands of the Pacific. It would be questionable whether, if he had done so, he would have deserved the gratitude of posterity; for the pig, in his *rôle* of universal scavenger, adds to the insanitary state of the village when alive, and when dead disagrees with his owners. For he was never an article of common diet, being killed only on occasions of ceremony, and then eaten to excess. So far from taking pigs to Tonga, Cook called there to obtain them in order to preserve his crew from the scourge that wrecked so many other expeditions, the scurvy. One hundred and thirty years before Cook's visit Tasman exchanged iron for pigs at Hihifo. But pigs had not then reached all the islands. Penrhyn was without them; and tradition tells of a time when even Fiji, so rich in all else, knew not the taste of pork. The story comes from Samoa, and its very incoherence seems to stamp it as having a core of true metal within its thick coating of alloy:—

"Many generations ago, when the world was still young, the crops in Upolu failed, and there was a great famine. And a man, who had a daughter married to the chief of Tutuila, called his son to him and said, 'The people are dying of hunger, and beside these two pigs we have naught to eat. If we kill these the neighbours will come in and take the meat from us, and afterwards we shall all perish together. But I have heard that in thy sister's land, in Tutuila, there is yet plenty. Now go to her and ask her for shelter for me and thy mother and thy brothers who made her marriage-feast for her, for we would live with her until there be again plenty in Upolu.'

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

and there was great rejoicing, for there were no hogs in the island. And from this sow was the whole island replenished."

Some writers have remarked upon the Polynesian word for pig—*puaka* or *vuaka*—as being a proof that the pigs were first introduced by the Portuguese. There are, however, other words of Melanesian origin for the animal in Fiji—*nnyō* and *rore*—that show the animal to have been known in the Pacific by others than the Malayo-Polynesians. It is most probable that the name is a mere coincidence, and that the people brought their pigs to the Pacific with them. The name may even be onomatopœic.

The pig of the Pacific is long-snouted, humpbacked, lean, and out-at-elbows. He seems to have forgotten such of the decencies as may be traditionary among his civilised cousins, and will eat putrid flesh and other things that are unmentionable. He is, besides, stricken with a deep melancholy, from which neither the sunshine nor the cloud of flies in which he passes his existence can rouse him.

Domestic poultry must also have come to the Pacific with the ancestors of the present Polynesians. The Tongan name *moa* and the Fijian *toa* are of course onomatopœic. The Maories, already possessing the word to denote domestic fowls, applied it to the great wingless birds they saw on their arrival in New Zealand; for the *moa* in their eyes was simply a hen on a gigantic scale.

The cat was probably the next arrival, and its native name is proof-positive that it was introduced by a person who called it "pussy," therefore an Englishman. In an

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

ancient poem celebrating one of the earliest visits of a European ship, an unsuspecting cat has been handed down to posterity as sitting on the fo'csle :—

231 177 192

"Pusi ka tiko e mua ni wanga."

To the native poet it was the most remarkable feature of the ship. In Tonga it is *pusi*, in Fiji *vusi*, and, by metathesis, *kusi*. If the Polynesians had brought their cats with them, we should no doubt find that, like the ancient Egyptians, they called it *miau*. As for "puss," has not a living writer remarked that the god Pasht had a cat's head?

Then came the dogs. The name *kuli* has given rise to a popular delusion that the first dog was a colley, but this satisfying theory will not withstand the fact that the accent of the native name falls on the ultimate, and that dogs were called *kuli* as early as 1777, before sheep-dogs were generally known as colleys, the dogs in the Pacific at that date being not colleys at all. The more ancient Fijian name for dog is *tui*, but the word *kuli* is in use in all parts of that group that have been affected by Tongan immigration. Captain Cook found no dogs in Tonga in 1773, but on his return four years later he noticed numbers of dogs, "commonly of a sallow colour, small and pretty, nearly resembling the Pomeranian dog," which the natives declared they had lately obtained from Fiji. Whence the Fijians acquired them will now never be known; but, since the dingos or native dogs of Australia and New Guinea are very unlike the animals described by Cook, it seems probable that they are late introductions, landed from some vessel the tradition of

231 177 [136]

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

231 177 whose visit has now been forgotten. Vessels from Manilla and the East Indies probably visited Vanualevu for sandalwood at intervals throughout the eighteenth century, recording their visit in their log-book, but not thinking it worth while to report their discoveries on their return to port. In one of these the first dogs may have been landed. It is perhaps safe to assume that animals whose names are onomatopœic are indigenous, and that those that are called by a corruption of a foreign name are recent introOOO ductions. A curious instance of the latter kind of nomenclature is to be found in Rotuma and the Gilbert Islands, where a dog is called a *kamia*, the elegant native conversion of the homely "Come 'ere" with which the first dog was addressed by his illiterate master. The natives fled in terror from the new monster, and the sailor called it off, little thinking that he was adding a new word to the language of the island.

Little less curious is the origin of the Fijian name for 231 cattle. The first cattle brought to Tonga were presented 177 by Cook to Finau at Haapai. The two animals were 192 pointed out to him as a bull and a cow (*bulu mo kau*). OOO When they were afterwards shown to the Fijians, whose conjunction is not *mo*, the names were taken to be one word; and thenceforward all cattle, irrespective of sex, were called *bulumokau*, the sex being distinguished by suffixing the words for male or female. The ridiculous word is applied even to beef, and by the Melanesian servants domiciled in Fiji to mutton, when qualified by 231 the word *sipi* (sheep). The Tongans have now forgotten 192 the *kau*, and speak only of the *bulu*, adding the words *tagata* or *fefine* to denote the sex. Thus with them a cow

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

is a female bull (*koe bulu fefine*). D'Entrecasteaux, who visited Tonga fourteen years after Cook, found that the existence of the cattle left by that navigator was so far forgotten that the natives did not know which island they were on, if indeed they were alive at all. They were then spoken of as *puaka tute* (Cook's pigs). Cook himself records the fact that the new animals excited but little interest. This indifference still survives in the unwillingness of the people to keep cattle, in spite of the excellent pasture in the island and the large profits to be made from the sale of milk. Almost every Tongan owns a horse; scarcely half a dozen keep cows. A cow cannot be ridden, and it must be watered and milked with absolute regularity or it will run dry; and of all the products of civilisation, regular routine is the most hateful to the Polynesian.

I have spoken elsewhere of horses. The ancestors of the present breed were brought from New Zealand some forty years ago, but through promiscuous breeding they have dwindled to the size of the American mustang,—hard wiry ponies, without either mouth or paces, full of tricks and ill-temper, but capable of covering immense distances without fatigue. They vary in price from a few shillings to £7 or £8. The Government might easily have improved the breed by making gelding compulsory, or by enforcing the horse-tax; as it is, the country is overrun with wretched beasts, covered with sores, whose only use is to keep the grass short. I remember one of the police magistrates applying to the Government for an impounded horse,—"not that I may ride it, but because I am old, and there is no one to weed my enclosure."

14: Thomson G-3 (1886-1891) 1894
OU9 Tonga OU9

231 137 One result of the introduction of horses has been the almost entire destruction of the bread-fruit-tree throughout Tonga. The glutinous sap is irresistible to horses, and they greedily tear off the bark as far up the trunk as they can reach, of course killing the tree.

231 492 The men ride like centaurs, but, unlike centaurs, they have no hands. As a consequence, the Tongan pony has no mouth. Almost as soon as the boys can walk they are galloping barebacked, with no bridle but a rope knotted round the horse's nose. Grown men generally use a saddle of some kind without girths or surcingle, [562] and too often without stuffing. The women have not yet taken to riding like their cousins in Hawaii, who have even converted the European women of the place to trousers and a man's saddle.

231 825 The people are as cruel to their animals as the Egyptian donkey-boys. A sore back is never thought a reason for sparing a horse. I have seen ponies returning from the plantations in the evening with a basket of yams slung on either side with a sinnet cord, which was cutting deep into a bleeding raw on the withers. I stopped the man and tried to convince him of his brutality. He was simply incapable of comprehending the idea of cruelty to animals,—an idea which, after all, is only found among the stricter Buddhists and the Anglo-Saxons, and with the latter is but the growth of a single century.

493 [491] The wheel traffic of Tonga has increased enormously. Every man who can afford it has a cart, the richer natives American buggies. In wet weather the wheels cut the soft grass-roads into rivers of mud, in which the wheels are logged to the axle-trees. On such roads the heaviest

21: Simkin U-5 (no date) 1945 OU9 Tonga OU9

The chief barrier to this development seems to be a general satisfaction of the commoners with things as they are. They have always been content to leave things to the chiefs, and have no serious grievances to stimulate them to political energy. Democratic institutions are seldom real or stable if they drop from the clouds; they become rooted in a society only when its people have learnt to appreciate and operate them, as a result of struggles to remove hardships. In Tonga progress towards political democracy is retarded, not so much because the present government is rapacious of power, as because it is productive of popular good.

Agriculture and Land Use[4]

The Tongan is a peasant, cultivating his compact holding in his own way, subject only to the easy and sensible requirements of the land laws.

[4]The following tables provide a statistical summary of the nature of Tongan agriculture:

DISTRIBUTION OF FOOD TREES (1939 Census).

Group	Coconuts	Bananas	Pineapples	Other Food Trees
	%	%	%	%
Tonga Tapu . .	39	46	43	39
Ha'apai . . .	26	22	20	7
Vavau	26	23	26	35
Niuas	10	9	13	19
Total for Tongans	3,059	638	314	875
Total for Kingdom	3,260	682	335	890

DISTRIBUTION OF PRINCIPAL CROPS (1939 Census).

Group	Yams	Kumalas	Tapioca	Other Plants
	%	%	%	%
Tonga Tapu . .	55	57	42	28
Ha'apai . . .	14	25	38	22
Vavau	27	5	13	40
Niuas	4	13	8	9
Total for Tongans	1,504	600	1,245	1,671
Total for Kingdom	1,610	647	1,309	1,842

DISTRIBUTION OF LIVESTOCK (1939 Census).

Group	Pigs	Poultry	Goats	Cattle	Horses
	%	%	%	%	%
Tonga Tapu . .	39	36	44	78 (a)	60
Ha'apai . . .	29	26	23	3	15
Vavau	17	24	30	17	20
Niuas	15	13	4	1	5
Total for Tongans	19,120	49,744	3,484	1,024	5,016
Total for Kingdom	19,754	50,378	3,572	2,634	5,179

(a) The actual number is 2,058 of which 1,549 are owned by Europeans.

21: Simkin U-5 (no date) 1945 OU9 Tonga OU9

Before the civil wars he used to live on his farm, but today it may be some distance from his home in the village. Four days' not too strenuous work a week is usually enough to provide for his family's needs. A few friends may join together to do work on each other's farms, but arrangements of this sort are quite irregular.

About half of a typical farm consists of an unkempt area devoted to the permanent cultivation of coconuts, and the remainder of a number of small plots cleared from a general area of bush and weeds. Less than half of it will be in use at any time since spelling is practised to conserve fertility. Yams, bananas, and corn are planted on the better land, as are the tapa trees, a species of mulberry from whose bark the women fashion a coarse cloth. Taros thrive on less fertile soil, while kumalas and tapioca do well on comparatively poor land. Bananas and tapa trees are left to grow for three years on the same spot, but the food plants are shifted every year. Intermingled with these major crops may be found pineapples, paw-paws, breadfruit, mangoes, kava, tobacco, cotton, chillies, ginger, candlenuts, citrus fruits and a few European vegetables. Somewhere on the holding it is usual to raise sugar cane for thatch, reeds for house walls, pandanus for mats and baskets, and various shrubs for scents and dyes.

A farmer in Tonga Tabu will have about 250 yams, 200 tapioca plants, 100 kumalas, 100 banana trees, and 50 pineapple plants. These figures are fairly typical for the whole Kingdom but some variations occur. In Ha'apai holdings are smaller and more carefully cultivated, with fewer yams and more tapioca; in Vavâu there are fewer kumalas but more breadfruit and corn: in the Niuas breadfruit replaces yams as the major food crop.

Primarily an agriculturalist, the Tongan makes little use of animals. He keeps perhaps half-a-dozen fowls, three or four pigs, and occasionally a goat or cow for butchering rather than for milking. Usually he owns a horse but does not use it for any farm work except carting. Sheep are not raised at all. To relieve the monotony of a largely vegetarian diet he resorts mainly to fish, which is plentiful everywhere.

For a moderate amount of work, then, the Tongan's allotment provides him with food, housing materials, tapa cloth, mats and baskets. Besides these necessities it affords him a few small luxuries such as kava, tobacco, scents, dyes, and native substitutes for soap. When he requires cash to pay taxes or rent, to meet Church subscriptions, or to buy a few store goods, he has only to harvest some of his copra or bananas.

21: Simkin U-5 (no date) 1945 OU9 Tonga OU9

From the standpoint of his own needs, therefore, the Tongan is an efficient enough farmer, but if European standards are considered his farming leaves much to be desired.

One of the first things to impress the outsider is the enormous waste of land, for, apart from a few clearings for the food plants, the farm is largely given over to prolific weeds. Equally glaring are the primitive methods of cultivation. Machetes, spades, push hoes, and an occasional fork are the only implements used, and no appreciation is shown of the use of animal manure or of any other fertiliser. Reflection will suggest, however, that these conditions may not be entirely due to agricultural backwardness. Intensive cultivation would exhaust the soil, and in the absence of local supplies fertilisers would cost more money than the Tongan could afford. Weeds may rob the soil of moisture, but they do not exhaust its fertility and have at least the merit of preventing soil erosion. Undoubtedly much more could be produced from the average farm, but probably only if fertilisers, cattle and implements were provided on a scale beyond the resources of most farmers.

To a certain extent the general faults of Tongan farming may be excused. It is less easy to justify the defects of its particular branches, apart from a recognition that they may arise not so much from a lack of ability or energy as from a lack of agricultural training and capital. Many of the crops and especially fruit are ravaged by serious diseases and pests, which the farmer does little to control beyond avoiding to plant obviously damaged material. The copra is of relatively poor quality, commanding inferior export prices because it is produced, harvested, and dried in a very haphazard way. The Tongan usually gathers it only when he needs money for some specific purpose, and this casual attitude, together with the infestation of weeds about the trees, leads to a considerable wastage of nuts. There are few hot-air driers in use, the greater part of the crop being rather carelessly sun-dried.

Perhaps the worst of the Tongan farming is animal husbandry. Not only is the stock inadequate and of poor quality, it is also badly cared for. Systematic efforts to provide feed are rare, the animals being left to forage for themselves. It is not surprising that they are scraggy creatures, too often suffering from serious diseases. Tuberculosis is particularly rife in both cows and pigs. There is little attempt either to control these diseases or to improve the stock by breeding.

22: West M-3 (1846-1855) 1865 OU9 Tonga OU9

quarter in the thickest part. On only two occasions have we seen it swimming at sea. When first observed, it was carrying the head quite erect, about four inches above the surface; but, instantly it saw our boat, it drew its head under water, and disappeared. The natives seem to have a great reverence for, or else a great aversion to, the creature, notwithstanding its prettiness. But this may arise, in part, from its having been held sacred, and being even worshipped in former days.

It would be hard to determine what were the indigenous animals of the Tonga Islands. We have heard an intelligent native playfully say, that, in olden times, the only representatives of the animal and feathered tribes, were the *kuma*, or field-mouse, and the *jikota*, a species of kingfisher. Captain Cook found hogs, and dogs, and probably, cats, upon the islands; but it is just possible that these were first left by the Dutch navigator Tasman, nearly a century before. Of his visit, the people have no traditionary knowledge whatsoever. Whether the Tonguese obtained animals from him or not, there is no doubt that the breed of hogs now extant is much superior to that which the people possessed in bygone days. Considerable attention is paid to rearing them. Many, it is true, are allowed to run wild in the bush; but a very large number are reared in pig-styes, or are regularly tended and fed by their owners.

The number of pigs consumed at the great native feasts, of various kinds, is something enormous. Hundreds, and even thousands, have been known to be slaughtered and cooked entire, on these occasions, with a wasteful extravagance, against which the Missionaries have hitherto lifted

22: West M-3 (1846-1855) 1865 OU9 Tonga OU9

261 262 574 231 up their protest in vain. By the custom of the country, in this matter, the bulk of the people have been kept poor, through an indisposition on their part to breed and rear animals that might, at any moment, be demanded from them by the chiefs, as a contribution to a domestic, political, or even religious festival.

136 231 [797] Horses and cattle were re-introduced by the Missionaries, a few years since, and have thriven well. They were first left by Captain Cook, but became extinct during the long series of wars which succeeded the period of his visit. Sheep also have been added, in late years, to the stock of fine goats that had been introduced at an earlier date. The number, however, of these various animals never can become anything very great. The islands are too small to permit of extensive districts being devoted to sheep-runs or pasturage for cattle. Sufficient, however, may be raised for all the purposes of home consumption, and for the replenishing of ships' stores, even should the population become much more numerous than it now is.

The common domestic fowl, the *moa* of Polynesia, is exceedingly abundant, both in the *abis* of the people, and in all parts of the bush. They are somewhat smaller than the English species, but are quite equal in flavour. The *bato*, or Muscovy duck, is also becoming plentiful; while the possession of fine large broods of turkeys is not now restricted to the limits of the Mission families, by whom they were introduced. Geese and English ducks have been tried; but they do not appear to thrive. Perhaps this is owing to the want of sufficient water-ponds.

136 There is no great variety in the other members

22: West M-3 (1846-1855) 1865 OU9 Tonga OU9

244 guese. Among these may be reckoned the *kumala*, or sweet potato, (*Convolvulus batatas*,) and the *talo*, or *arum*, of botanists. Both are grown; but the former is considered to be a very vulgar substitute for the yam; while the latter requires such marshy land for its perfect success, that only a very few spots are found suitable for it in the Friendly group. The common potato has been 797 tried by the Missionaries, and thrives pretty well 137 in favourable situations. The potatoes, however, soon degenerate in size and flavour, so that a renewal of imported seed becomes necessary every second or third year. It would, no doubt, do better if cultivated only on the higher lands of Vavau, and in similar localities.

244 There are several species of the *ji*, (*Dracæna*,) and from one of these a large root is obtained, [263] which, when baked, yields a considerable quantity [262] of brown saccharine liquid, sometimes used in sweetening native puddings; while the stringy substance of the root itself is eaten, and resembles somewhat in taste the sweetness of stick cinnamon. [231] The leaves of the different sorts of *ji* afford capital fodder for goats, sheep, and cattle.

824 The arrowroot plant, (*Tacca pinnatifida*,) grows [244] wild, and is found in quantities sufficient to meet the wants of the people, without any special care being devoted to its cultivation. The chief use of the starch, obtained from it by the natives, is in the manufacture of their *gatu*, or cloth. The various [287] small stripes of *fetaaki*, or beaten bark, of which the cloth is made, are joined together by means of arrowroot paste. Any quantity, however, of the root could be raised with but little outlay or labour; and when a better method of scraping and

43: Maude K-4,5 (1962) 1970
OU9 Tonga OU9

population growth over the last three decades, and consequently the rate of increase in the intensity of cropping, has probably been more rapid than the rate at which Tongan farmers are willing to change their established methods and particularly their habits of work. By contrast, the more elaborate techniques used by the New Guinea agriculturalists discussed by Brookfield (1962) and Clarke (1966) appear to have been developed over a lengthy period under conditions of slow population growth. Furthermore, in the past the Department of Agriculture has done very little experimental or extension work on the problem of maintaining soil fertility under food cropping, and most of the technical advice given has concerned cash crops. Consequently many Tongan farmers have little knowledge of the techniques that could be adopted, and unlike shifting cultivators in some other areas they have had no contact with peoples practising more advanced systems of subsistence agriculture.[2] They also have no tradition of livestock farming (except with pigs) which could be developed into an intensive farming system based on manuring, as is found in parts of Africa.

The relevance of Boserup's thesis to the process of agricultural change in Tonga may now be briefly reviewed. While none of the material presented above conflicts with her thesis that the intensification of traditional agricultural systems occurs only when forced by population pressure, for it is evident that differences in the intensity of cropping in Tonga are related to differences in population density rather than to differences in land quality, it does suggest some qualifications to her argument.

Firstly, not all of the adaptations made by Tongan farmers to population growth have involved increases in labour input, for one response has been to adopt a high yielding and easily cultivated crop such as cassava.[3] Secondly, a good deal of intensification seems possible without necessitating basic changes in the agricultural system. Short-term in-

[2]Compare the comments by Boserup (1965, pp.41, 64).

[3]On the other hand more labour is now required for clearing and weeding gardens and yields have probably been affected by the decline in soil fertility, but whether the net result has been a decline in output per man-hour is impossible to determine in the absence of data on labour inputs and production.

[p.63-B]

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

out of a Canoe into the quarter gallery and stole from thence a pewter bason, he was descovered, pursued and brought a long side the Ship; on this occasion three old Women who were in the Canoe made loud lamentations over the man and beat their breasts and faces in a most violent manner, and all this was done without sheding a teer. This is what occasions the Mark all of them bear on the face over the Cheek bone, where on many occasions they actually cut themselves with an instrument in the same manner as the people of Otaheite cut their heads.

Made Mariwaggy some return for his present, exercized the Marines before him,[1] and in the evening played off some fire-works, before all the Chiefs and a great number of people of all denominations who were both astonished and highly entertained. The King was present and sat behind every body, because no one is allowed to sit behind him, nor was any allowed to sit before him, a lane as it were was made by the people from him quite down to where the fire works there.

Lest amongst their thievery they should steal some of our Cattle from a suppossision that I would leave none behind, I thought proper to make a distribution and mark those I intended to leave. With this View the next evening I assembled all the Chiefs before our house where the Cattle was. To Fattafee the King I gave a young English Bull and Cow, to Mariwaggy a Cape Ram and two Ewes, to Feenough a Horse and a Mare.[2] As the giving away these Cattle was made known the day before, most of the people in the neighbourhood were present. Omai was desired to till them that there were no such animals within many Months sail of them, that they had been brought them at a vast trouble and expence, and therefore they were not to kill any till they became very numerous, and lastly, they and their Children were to remember that they had them from the Men of Britane; he also explaned to them their several uses and what else

Thu. 19

[1] '. . . in return for the perticular pains the natives has taken to divert us with their Heava's which are exceedingly entertaining Captain Cook has order'd the marines from boath ships, on shore with their Arms and dress'd in their Regimentals—on their landing they were marched up some distance from the beach with Drums beating french horns playing and coulours flying and where receivd by Captain Cook and the other Officers attended by a vast multitude of the natives who where vastly please[d] with their exercise and fireing—in the Evening the marines where sent onboard again after being well refresh'd by the natives.'—Portlock. Bligh is somewhat sour about the British performance: '[A m]ost ludicrous perfor[man]ce for the Marine Officer [was as] incapable of making [his] Men go through their [Exerci]se as C. Cook's Mus[ician]s or Musick was [ill] adapted.'—Bligh AL, I, p. 300.

[2] 'These Presents were not very pleasing to Omai, who remark'd at the time, that the Cattle were for him.'—Edgar, 28 June.—'. . . besides these Animals which are all new to them, they have made shift to steal 6 Cats since the affair of the Cats at Happi, and which can be but ill Spared from Ships so overrun with rats as ours.'—Burney, 5 July.

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

was necessary for them to know, or rather as far as he knew for Omai was not very well versed in these things himself. As I intended they should remain with the other cattle till we were ready to sail, I desired each of the Chiefs to send a Man or two to look after them along with my people, in order that they might be better acquainted with them. The King and Feenough did so,[1] but Mariwaggy nor no person for him never took the least notice of the Sheep afterwards, nor did Old Toobough attend at this meeting tho desired and in the neighbourhood: to him I designed the Goats which I afterwards gave to the King viz. a Ram and two Ewes. It soon appeared that all were not satisfied with what I had given them, for early in the Mor-
Frid. 20 ning one of our Kids and the two Turkey-cocks were missing. It required no fore sight to know what was become of them and I was determined to have them again; with this View I seized on three Canoes that were along side the Ships and then went a shore and found the King, his Brother, Feenough and some other Chiefs in the house we occupied, I immidiately put a guard over them, and gave them to understand they were not to stir till not only the Kid and Turkeys but every thing that had be[en] stolen from us were returned. This information seemed not in the least to affect them, they assured me every thing should be returned as I desired and sat down and drank their Cava without any manner of restraint. It was not long before an ax and an Iron wedge was brought me. In the mean time some armed men began to gather together behind the house, but on a part of the guard marching against them they despersed and I told the chiefs to give orders that no more should appear which they did and their orders were obeyed. I asked them to go aboard to dinner they readily consented, but after some objected to the Kings going at which he rose up and declared he would be the first man and aboard we came. I kept them there till near 4 oClock then conducted them ashore and soon after the Kid and one of the Turkey-cocks was brought back, the other they said would come the next Morning, I beleived them and released both them and their Canoes. After they were gone Omai and I walked out to see how the people about us fared, for this was the time of their meals. In general they were at short commons, nor is this to be wondered at sence most of the yams &c[a] they brought with them were sold to us, and they never thought of going away so long as they could subsist. Our station was

[1] 'Poulohow & Feenow were highly pleas'd with their allotments, & sent people to take care of them; & I think there is little doubt of their succeeding particularly the Cows, for it always was a favourite conversation of the King's, the riches he should gain by these Animals, enquiring of us how much Iron & other things future Ships would give for a Bullock.'—King, 20 June.

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

but by the hand of Providence, and the consequence of a refusal was a proof of his being guilty.[1]

SATURDAY 5*th*. In the Morning of the 5th the day of the Eclipse, the Weather was dark and Cloudy with showers of rain so that we had little hopes of an observation. About 9 oclock the Sun broke out at intervals for about half an hour after which it was wholy obscured till within a Minute or two of the begining of the Eclipse. Every one was at their Telescopes viz. Mr Bailey, Mr King, Captain Clerke, Mr Bligh and my self; I lost the observation by not having a dark glass at hand sutable to the Clouds that were continually passing over the Sun[s] and Mr Bligh had not got the sun into the field of his Telescope; so that it was only observed by the other three gentlemen and by them with an uncertainty of severl secconds, and was as follows, viz.

by Mr Bailey at	11h	..46′	..23½″	} Apparent time
Mr King	11	..46	..28	
C. Clerke	11	..47	..05	

Mr Bailey and Mr King observed with the Acromatic Telescopes belonging to the Boa[r]d of Longitude of equal Magnifying powers, Capt[n] Clerke obser[v]ed with one of the Reflectors. The Sun appeared at intervals till about the middle of the Eclipse, after which it was seen no more during the day, so that the end was not observed; it was of little consequence sence the Longitude was more than sufficiently determined independant of this Eclipse, by Lunar observations as will be mentioned hereafter. As soon as we knew the Eclipse to be over, pa[c]ked up the Instruments, took down the observatorys and sent every thing aboard we had a shore. And as no one had taken the least notice or care of the three sheep I gave to Mariwaggy I to[ok] them aboard also lest after we were gone the Dogs should destroy them; for altho' they had not a dog on the Island in 1773 when I first visited it, they have now got a good many, partly from the breed I left and partly from some they got from a neighbouring island c[a]lled *Fidgee*.[2] The dogs however at present had not extended

[1] The royal bowl, however, was versatile. Common people could be cured of sickness by having the stomach rubbed with it.

[2] '. . . the tents and observatories were continued ashore on account of the eclipse of the Sun, July 5th—and here we hoped to gain some credit by displaying our skill in prophecy, as Columbus had on a similar occasion, but these expectations were defeated by the cloudiness of the weather which rendered the eclipse visible only at times through a Telescope.'—Burney.

[3] Fiji, from Viti, the main island of the group.—'. . . there is little fear of the Goats, as they breed fast & require no care, & one of the she goats was with young; these things have also an advantage, that there are very few dogs; we imagin'd for a long time, that they had none, but what bred from a dog & a bitch left by C. Cook the last Voyage, but the great age of some we saw, made us against our inclinations give up the honour of supplying them with this domestic animal; & believe them that the first dogs they had

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

farther than this island, nor were they in the possession of any but the Chiefs.

We were now ready to sail, but as the wind was easterly we had not day light to turn through the narrows with neither the Morning nor evening flood, the one falling out too early and the other too late; so that without a leading wind we were under a necessity of waiting two or three days. I took the oppertunity of this delay to be present at a public ceremony, which was to be on the 8th and to which the King had invited us. He and all the people of note left us on the 7th and repaired to M[oa] where it was to be performed. A party of us in two boats followed them the next morning and got to the place about 8 oclock. We found the King with a large Circle before him within a small dirty inclosure, such a one as I thought had not been in the whole place. They were as usual making a large bowl of Cava, and as this was no liquer for us, we walked out to visit some of our Friends and to see what was going forward without. About 10 oclock the people began to assemble in a large Area which is before the great house we were conducted to the first time we visited this Village.[1] At the end of a lane opening into this place were some Men with Spears & Clubs in their hands, some of them stood up and con-

were from an Island call'd Fidgee; they are yet great curiosities & only in the possession of the Chiefs.'—King, 20 June.

[1] The ceremony which Cook goes on to describe is one for which Anderson picked up the name 'natche'—Mariner's 'inachi', modern *'inasi*. Writers after Cook, starting with Mariner, are unanimous that what Cook witnessed was the great *'inasi* ceremony also described by Mariner (II, pp. 168–73), a sort of harvest festival. The word, says Mariner, meant literally 'a share or portion of any thing that is to be, or has been distributed out; but, in the sense here mentioned, it means that portion of the fruits of the earth, and other eatables, which is offered to the gods in the person of the divine chief Tooitonga, which allotment is made once a year, just before the yams in general are arrived at a state of maturity; those which are used in this ceremony being of a kind which admit of being planted sooner than others, and, consequently, they are first fruits of the yam-season.' They were planted late in June. The ceremony seems to have been held about October. But Cook's ceremony was early in July, too early for 'first fruits', and as he goes on to remark, a number of his ceremonial yams were 'emblematical'. Anderson, and perhaps others, were linguistically learned enough after their stay in Tonga not to be misled too much, and it seems therefore that he and Cook were right in thinking that the central part of this particular *'inasi* was the 'share' of the Tu'i Tonga's son, the 'young Prince', a sort of coming of age ceremony; possibly something to do with puberty. Or Cook's theory of an 'Oath of Allegiancy' to the Prince may have something in it. According to H.M. the late Queen Salote, his mother, Tupoumoheofo, was forceful enough to get the boy appointed Tu'i Tonga while his father was still living, in spite of Paulaho's objections—the only instance of such a thing in Tongan history. The ceremony might then have been one of installation. (This interesting hypothesis I owe to Miss Dorothy Crozier.) Whatever the truth of the matter, it is unfortunately impossible to interpret in detail the proceedings recounted by Cook. The *'inasi* ritual seems to have broken down in the unsettled period in Tongan politics at the end of the eighteenth century: Mariner writes (pp. 167–8), 'Although the ceremony of *inachi* was entirely abrogated by Finow just before Mr. Mariner left Vavaoo, we place it first in rank, because it always used to be considered of the utmost importance before it was done away with; besides which, it was a ceremony which affected the property of every individual in Vavaoo, and all the Hapai Islands, and formerly in the Island of Tonga also'. It must therefore have gone first in Tongatapu. The Hon. Ve'ehala,

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

was brought him that I had striped in conformity to their custom and then told Omai he might go too, provide[d] he would comply with all the necessary forms, Omai had no objection as it was only comfirming to the Custom of his own Country, he was furnished with a proper dress and appeared at the ceremony as one of them. Probably one reason why we were excluded at first was the apprehinsions that we would not comply with all the necessary forms.

While I was at [Mooa] I ordered the Horses, Bull cow and goats to be brought thither, thinking they would be safer under the eye of the cheifs, than left in a place that would be in a manner diserted as soon as we were gone. Besides these Cattle we left with them a young Boar and three young sows of the English breed: they were exceedingly desirous of them, foreseeing no doubt that they would greatly improve their own breed which is rather small, Feenough also got from us two Rabbits a Buck and a Doe and before we left the island were told she had brought forth young ones. If the Cattle succeed, of which I have no doubt, it will be a vast acqu[i]sition to these islands, and as Tongatabu is a fine level country the horses will prove a usefull animal.

THURSDAY 10*th*. On the 10th at 8 oclock in the Morning, we weighed anchor and with a steady gale at SE turned through the Channel, between *Maccoha* and *Manooaffee*[1] it being much wider than the one between the last mentioned island and *Pangemaudoo*.[2] The flood set strong in our favour till we were the length of the Channel leading up to the Lagoon,[3] where the flood from the Eastward meets that from the west, this together with the indraught of the Lagoon and shoals before it, causeth Strong riplings and whirlpools.[4] To ad[d] to these dangers the depth of Water in the channel exceeds the length of a Cable, so that there is no anchorage unless close to the rocks where you met with 40 and 45 fathom over a bottom of dark sand, but then here you would be exposed to the whirlpools. This frustrated the design I had formed of bringing the Ships to an anchor as soon as they were th[r]ough the Narrows, and going to see the funeral, I chose rather to lose that sight than leave the ships in a

[1] Makaha'a and Monu afe.

[2] Cook has here made a slip: for 'last mentioned' read 'first mentioned'. The distance between the reefs on which Makaha'a and Monu afe lie, measured on the chart, is about 2¼ cables—some 500 yards, though the channel ('the Narrows') now used is barely 1¼ cables wide. The Monu afe reef runs eastward to form the northern side of Piha passage. The distance between the Makaha'a and Pangaimotu reefs is about ¼ cable—100 yards or so.

[3] 'The Water is fortunately so clear, that we can see any danger before we are absolutely upon it. This is our principal dependance, for as I before observ'd, the rapidity of the Tide renderd sounding of very little Consequence.'—Clerke.

[4] 'Heavy tide-rips and overfalls', to quote the *Pacific Pilot*, II, p. 368.

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

Before I returned on board I set on foot a trade for Hogs and Yams, of the first we got but few but of the latter plenty. I put a shore at this island the Sheep I gave to Mariwaggy, viz a Ram and two Ewes of the Cape breed; they were intrusted to the care of Ta-oo-fa who seemed to be proud of his charge. As the Dogs had not yet got to this island I looked upon it to be the properest place for sheep.

SUNDAY 13*th*. The 13th in the after noon a party of us traveled to the top of the highest hill in order to have a View of the interior parts of the island. About half way we crossed a deep Valley, whose bottom and sides were clothed with timber, though composed of hardly any thing but coral rock, which, as was observed on Tongatabu, was perforated into all those holes and inequalities we find it on the Sea Coast, though this could not be less than two or three hundred feet above the livel of the Sea. Indeed we found the same Coral till we began to approach the summits of the highest hills, these were chiefly composed of yellowish soft sandy stone. The soil for the most part is a redish Cley which in many places seemed to be very deep.[1] On the very summit of the highest hill is raised a round platform or Mount of earth, supported by a wall of Coral stone, which to bring so high must have cost much labour. Our guides told us that this Mount was raised by order of their Chief and that they sometimes met there to drink Cava[2]—there being a spring of very good Water not many paces from it, and about a mile lower down a runing stream which we were told finds its way to the Sea when the rains are copious; we also met with Water in many little holes so that by diging no doubt but great plenty would be found. From this hill we had a full View of the whole island except a part of the south point; the SE side from which the hills are not far distant, rises with very great inequalities directly from the Sea, so that the plains and Medows, of which here are some of great extent, lay all on the NW side; and as they are

[1] 'Eua geologically is an interesting combination of the coral and the volcanic island. Coralline limestone was deposited on an underwater volcanic base; then renewed volcanic activity was followed by intermittent uplift, and later tilting which made the east and south sides higher than the west and north ones. Hence the combination of coral rock, soft volcanic tuff and volcanic soil which Cook describes in these last two sentences, and the landscape he describes further on. Parts of the island were naturally very fertile. To the tributes printed in II, p. 260, n. 4 may now be added one from Edgar. 'This little Island may be stiled the Montpelier of the Friendly Isles—the Land is higher than any of the others, and affords some of the most Romantick & beautiful Valleys in the World the greatest part of this Island is not planted the Earth or Soil of which bears the Strongest resemblance to red Ocre—tho' there is great abundance of every thing for it's inhabitants the Walks are enchanting and the whole Island is a little Paradise.'

[2] It was an *ati*, or 'rest-mound', a mound built for a particular chief, in some advantageous spot, where he might take his ease, and recreate his spirit with the view, which Cook goes on to describe. Sometimes the ownership would lie in the whole chiefly family. The Tongans were very conscious of natural beauty, as well as of the pleasure of cooling breezes.

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

the family sleep on the floor where ever they please to lay down, the unmarried Men and women each by themselves, or if the family is large they have small huts without to which they retire to sleep, so that privacy is as much observed here as one can expect. They have mats made on purpose to sleep upon, and the clothes that they wear in the day, serve them for covering in the night. Their whole furniture consists in a bowl or two in which they make the Cava, a few gourds, Cocoa nut shells, and some small wooden Stools which serve them for pillows and and perhaps a large Stool for the Master of the family.

Food and Cookery Their food and Cookery have been so often mentioned that it is almost needless to add any thing further, Yams and Vegetables makes the greatest part of their food, nay I beleive yams alone does, these they cultivate with much labour and have them in very great perfection. Fish is prefered to hogs[1] and poultry which are the only tame animals they have except dogs; nor is there any wild animals except rats and birds. Thier food is dressed generally by baking in the same manner as at Otahiete, and they have the art of making from different kinds of fruit several dishes which most of us esteemed very good. I never saw them make use of any kind of Sauce, nor drink any thing at their meals, but water or the juice of the coca-nut for the Cava is always drank in a morning. I cannot say they are cleanly either in their Cookery or eating, the generallity of them will lay their victuals upon the first leafe they meet with be it dirty or clean but the Chiefs have their victuals generally served up on green plantain leaves. When the King made [a] meal he was for the most part attended upon by three or four persons, one cut large pieces of the joint or fish, whatever it was, a another cut it into mouthfuls and others stood by with Cocoanuts and what else he might want.[2] I never saw a large company sit down to what we would call a sociable meal, that is to all eat from the same dish; the Victuals, be what it will is always divided in to portions,

wide, clean & cool, we had the Glimpse in many of the inclosures of pretty young women, which convinced us that their principal ladies were kept out of our sight, as they were very shy. . . . In the inside of the dwelling houses, are matts spread on the Ground; & a thick upright mat work 2 or 3 feet high which inclosed a Circular space for the Master & Mistress to sleep in, in the Night; & the principal women are fond of sitting within this kind of fender or skreen in the day time out of doors.'

[1] The point here rather is that hogs were forbidden to commoners. All the land and its products being regarded as the property of the Tu'i Tonga, he, and chiefs deriving their precedence from him, had priority over the mere *tua*. All pigs over a certain size were *tapu* except for chiefs: even their 'owners' could not consume them. The same rule applied to large fishes, which had to be handed over on pain of severe punishment.

[2] These persons were *matapule*, officials of near-chiefly status, though not chiefs, who were appointed for the purpose.

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

their antagonist and give him another very smart one with the other hand backwards. The boxing matches seldom last long, and the partys either leave off together or one acknowledges his being beat in that manner, but they never sing the victory in these cases unless one strikes his antagonist to the ground, which shows that of the two wrestling is their most approv'd diversion. Not only boys engage as often as the men in both these excercises, but frequently little girls who are generally mention'd by some person in the circle, box very bitterly for a short time; in all which cases it does not appear that they ever consider it as the smallest disgrace to be vanquish'd, and the person overcome sits down with as much indifference as if he had never enterd the lists. Some of our people ventur'd to contend with them in both excercises, but were always worsted, except in a few cases where it appear'd that the fear they were in of offending us gain'd a greater share of the victory than the superiority of the person who engag'd.

THURSDAY 19th. The weather pretty good but at night cloudy with some showers of rain. Our people employ'd as usual. The Captain made a distribution to day of the live stock he intended to leave here, giving a heifer, bull and cow to Poulaho, a horse and mare to Feenou, and a ram with two ewes to Mareewagee, at the same time time giving directions how they should be rear'd and propogated: but they did not show any particular marks of satisfaction as if they considerd them a usefull acquisition.

FRIDAY 20th. The wind E or EBN. Fresh breezes with cloudy weather. The people employ'd as usual. In the morning two of the Turkeys on shore were missing, and upon suspicion that the Indians had stole them the Captain confind Poulaho & Feenou with a guard at the tent, and orderd a large Canoe that was along side the ship to be detain'd; but they were soon releas'd on producing an axe and wedge & one of the Turkeys that had been stolen before, with a promise to restore the other Turkey.

SATURDAY 21st. The wind Easterly. Moderate breezes with fine weather but at night a few showers and squalls. The Indians, many of whom had been absent for two days from their being unable to procure victuals upon the spot, collected in great numbers about the tent and in the morning two large piles, each compos'd of the trunks of four trees plac'd near [each] other in a square about thirty feet high, were erected with pieces fastend across to get up by. These were fill'd to the top with large yams, and in the forenoon a number

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

It rests upon a narrow base, the upper part projecting very considerably, and is cover'd with E Toâ and Pandanus trees. At night there was a vast number of lights along shore to the westward which we suppos'd was the Indians fishing.

SATURDAY 28th. The morning calm but afterwards brisk breezes from WNW with fine weather till the evening, when it veer'd to the S°ward with drizzling rain. The people employ'd as usual.

Few Canoes off and all the Indians have left the place near the tent except a few villains who are very troublesome & constantly endeavouring to commit some petty theft. They were so audacious as to throw cocoa nuts at some of our people (which however might in a great measure be imputed to their own imprudence in admitting these people to childish Libertys with them at first) and threaten them with clubs, for which we seizd three of them, tied them to trees and flogg'd them very severely, afterwards cutting a large cross in the arm of one with a knife which was certainly the least excusable part of the punishment. One of them was also fird at in the morning for some flagrant attempt of the same kind by a centinel, who certainly hit him, as he was seen to be supported by several others after crossing the small creek near the place.

SUNDAY 29th. The wind E. Moderate breezes with good weather. The people unemploy'd.

MONDAY 30th. The wind . Gentle breezes with dull close weather and some small rain the afternoon.

Two of us went along with Futta'faihe as visitors to his house which is at Mooa very near his brother Poulahos. A short time after we arriv'd they kill'd a pretty large hog which is done by repeated strokes on the head, and scrap'd the hair off very dexterously with the sharp edge of pieces of split Bamboo, taking the entrails out at a large oval hole cut in the belly by the same simple instrument. Before this they had prepar'd an oven which is a large hole dug in the earth, fill'd at the bottom with stones about the size of the fist, over which a fire is made till they are red hot. They took some of these stones wrap'd up in leaves of the bread fruit tree and fill'd the Hogs belly, stuffing in a quantity of leaves to prevent their falling out and put a plug of the same kind in the Anus. It was then put on some sticks laid across the stones in a standing posture and cover'd with a great quantity of Plantane leaves, after which they dug up the earth all round and coverd it closely up, leaving it to bake in that manner. In the mean time we walk'd about the country, but met with nothing

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

of the peoples property. On coming to the point they mention'd some thing of a person who they said had been fir'd at by some of our people, and upon our wishing to see him they carried us to a house where we found a man who had been shot through the shoulder, but not dangerously, as the ball had enterd a little above the inner part of the collar bone and pass'd out obliquely backwards. We were sure from the state of the wound that it was the person who had been fir'd at by the centinel the day the others were punishd, though positive orders had been given that none of them should load their pieces with any thing but small shot. There had been no application made to it and the people about him seem'd to be very little concern'd at the accident, nor indeed the man himself farther than his being oblig'd to sit still from the pain and swelling which was considerable. We gave them some directions how to manage it & they seem'd pleas'd when we told them it would get well in a certain time: but what is singular, on our going away they ask'd us to send him some Yams & other things for food, and in such a manner that we could not help thinking they imagin'd it was our duty to support him till he should get well.[1]

In the evening we cross'd the Bay in a Canoe which Futtafaihe had excercisd his prerogative in procuring by calling to the first that pass'd by, and found fault with the people because they did not seem to come immediately as they were calld to. He had also got a large hog at this place and brought a servant from his house with a bundle of cloth which he wanted us to carry as a present from him, but the Boat being small we objected and he order'd it to be brought over next day.

We got off the remaining horses, Cattle and sheep as preparatory to our leaving the place.

WEDNESDAY 2d. The wind SE. Moderate breezes with dull cloudy weather and some rain in the morning.

[1] Compare King's account on the Tongan point of justice. They went to the man, '& found him in a very grave temper, with his wife & some friends sitting by him . . . nature was doing her part, the seperation had begun, & the Doctor said he did not doubt, but left to itself it would have done well; the parts about were swell'd & inflam'd & the man complaind of not being able to lay himself down; we had about us some linnen & the Doctor cleand the wound & applyd some lint to the place, & made them well understand, how they were to proceed in future, he direct'd them to clap a Poultice of Plantain, but we were a little surpris'd on his wifes not asking as a favour, but as matter of justice something to buy him Plantains, & not for this purpose only, but food for her family, saying that they had nothing of their own, living upon the labours of the wounded man who was a Fisherman, & that as we had depriv'd him of earning his & their livelyhood, we should keep them; We had a long Altercation on this point, but some grave old men nodded in favour of our arguments when we told the woman, that had he been fishing for his family when he attemptd the theft for which he was punishd, she woud not now have want'd our assistance. The man recover'd his spirits instantaneously on our assuring him that he woud not die of this wound.'—Adm 55/116, f. 93v.—In the Tongan context, the idea of 'buying' plantains is rather surprising.

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

THURSDAY 3d. The wind SE. Moderate breezes with dull cloudy weather. In the morning we unmoord and after breakfast weigh'd and stood round the W end of Pangia-motoo, anchoring on its NW side in 17 fathom that we might take the advantage of a westerly wind to pass the narrow[s] between Makkahåå and Mon'ooafai which leads out to the eastward.

FRIDAY 4th. The wind ESE or SE. Moderate breezes with dull cloudy weather and some rain. The Indians begin to collect again about the tent as we have had more for these two days than some time past, & they also bring a few Yams & other things to Barter.

SATURDAY 5th. The wind SE and SSE. Fresh breezes with close gloomy weather and frequent showers of rain.

We had an Eclipse of the sun to day, the earliest beginning of which that could be observ'd happend at hours minutes seconds, but it was totally obscur'd by clouds a great part of the time it lasted especially towards the end. For several days before a great many spots were seen in that body which daily chang'd their number, magnitude & situation, but amongst others there was one place which had a groupe exactly like a cluster of nine islands.

The tent was struck and carried off in the morning and after the Eclipse the Observatory with all the other things and the party of marines went off.

SUNDAY 6th. The wind SBE or SSE. Fresh breezes with dark cloudy weather and some showers of rain.

MONDAY 7th. The wind SSE. Fresh breezes with some strong squalls and dark cloudy moist weather.

TUESDAY 8th. The wind SSE. Fresh breezes with cloudy weather in the morning but afterwards clearer and more moderate. The Launches of both ships were sent to Mooa with the Cattle & horses that had been left, and the Captn went to the same place to see a Ceremony which Poulaho told us when we went last to visit him was to happen about this time. We understood then that it was to be an initiation of his son and heir into some privileges, amongst which was that of eating with his father which he had never yet done, and as it was only ceremonial that he would just eat a single mouthfull of Yam & his father the same. We found Poulaho in his circle of Kava drinkers who told us that the ceremony would begin by and by, but begg'd it as a favour that we would appear with our heads uncoverd and our hair loose. About eleven oclock we went to the Ma'laee where we were carried the first time of going to Mooa, but saw very

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

appears probable the inhabitants of Tonga think them worthy of imitation in many respects. I have subjoind three words which seem to differ much from those of the other isles.

Tama'lôà	A chief man
Tamaë'ty	A chief woman
Solle	A common man

'Feejee is the only place they know that does not bend to their authority and they are themselves oblig'd in some measure to acknowledge the superiority of Feejee, a circumstance they always express by bending the body forwards and covering the face with their hands. This place is compos'd of several high isles which bear about w from Hapaee and is much larger than Tonga. Its distance may be guess'd by their time of sailing to it which with a good wind is three days but with an indifferent one five or more. The inhabitants sometimes visit Tonga and the other isles in a hostile manner and carry off their hogs and other things, where they are much dreaded from their fighting with Bows and Slings but more so from the unnatural practice of eating their enemies whom they kill in battle. This practice is destested very much by the people of Tonga (who mention something of an Island to the eastward where the same custom prevails) and who cultivate the friendship of those of Feejee apparently out of fear, though they sometimes venture to skirmish with them on their own ground and carry off red feathers as their Booty, which are found in great plenty there and highly valued at Tonga. When they are at peace the intercourse between the islands seems pretty frequent, though they have been doubtless but lately known to each other, or we may suppose that Tonga and the other isles would have before this been supplied with a breed of dogs which abound at Feejee, and though now at Tonga were not to be seen when Capt[n] Cook was here in 1773. Contrary to the practice at Tonga the women of this place are punctur'd but not the men. We have seen several of both sexes at Tonga who are generally smaller than the natives of that place, are of a deeper and more shining black and have the hair frizzled. The Ears of some are slit and the lobe hangs down almost to the shoulder, like the inhabitants of some other isles in the south sea. They are much respected here, not only perhaps as a powerfull people but from their ingenuity, as they seem even to exceed the inhabitants of Tonga in that respect if we might judge from several things that come from that place: as their clubs and spears which are carv'd in a very masterly manner, their cloth which is beautifully checquer'd, variegated matts, their earthen pots, and

56: Samwell D,T-5 (1777) 1967 OU9 Tonga OU9

kept their Drums. The soil is rich & good & the Climate equal & fine like most others situated in the same Latitude, where there is no cold Weather & the Inhabitants are not oppressed with Heat.

The Chief Produce of the Island is Cocoa nuts, bread fruit, Plantains & yams & Sugar Cane, all which the Country affords in great Abundance, & there are some Shaddocks, but not near so many as at Middleburg. Their Hogs are not so large as those of Otaheite nor so numerous, tho' we found plenty to supply the Ships while we staid among them, there are but few Dogs & many Rats on the Island and large Batts. They were very fond of our Cats some of which they stole, for which 2 or 3 of them were flogged on board the Discovery more than once. They have Variety of Birds some of which they used to bring on Sticks to the Ship to sell, such as Pigeons & a beautiful small green & red Parrot and they have plenty of Poultry about their Houses.

The Inhabitants of these delightful Isles are a handsome fine Race of People; the Men are rather above the common size, strong & exceedingly well made, of a dark copper Complexion with black Hair naturally, I say naturally because they daub it over with a Paste made of coral Powder which changes the Colour of it in different places into yellow, so that it is of a mixed Colour yellow & black, and this no doubt is the yellow Hair which Dalrymple takes notice of as having been seen by Quiros & other former Navigators to the South Seas, & which he supposes to be natural & therefore concludes that they are a different race of Men from the other South Sea Islanders who had not this custom among them, and therefore produces it as an Argument for the existence of [a] Southern Continent & that these were some of the natives. This practice is not confined to these people but common among other Islands in these Seas. They tattaw or mark their Loins & Thighs in various Lines according to their fancy, tho' there is an uniformity or standard to which they all approach like the Otaheiteans in tattawing the Breech. Some of them tattaw the Glans Penis. They all shave their beards, which is done with 2 small shells with sharp edges one laid under the Hair while they cut the beard with the other, & by this means they perform the Operation with expedition & get the hair off tolerably clean, tho' they always preferred our Razors when they could prevail upon the Ship's Barber to trim them.

Their Dress consists of a piece of Cloth tyed round the middle which descends as low as the Knee with sometimes a matt over it; others wear what they call a Pooraw[1] which is a Substance between

[1] *pulou.*

262 pineapple and papaya are eaten in season, and kava is widely grown.
[241] Pigs and chickens thrive and, along with fish and tinned corned beef,
[231] form the main protein in the Tongan diet.

131 Geographically and administratively the Tongan islands can be divided into three main groups (see map, Figure 2.2). Tongatapu and
[133] 'Eua in the south have by far the largest land area. The central Ha'apai group consists of small coral limestone islands. Lifuka, largest of the Ha'apai group, is 4 1/4 miles long and 1 1/2 miles at its broadest place. The Vava'u group lies 60 miles northeast of
[504] Ha'apai and consists of one large and several small islands. Neiafu harbor, Vava'u, is one of the best land-locked harbors in the South Pacific. In addition to these three main groups there are outlying islands to the north, including Niuafo'ou, Niuatoputapu, Tafahi, Toku, and Fonualei.

192 The temperature varies from the low 50°s to 90°, the humidity is usually very high, the mean being almost 80°. Annual rainfall is about 65 inches per year. There is usually a definite wet season from December to April and often a draught between October and December.
[312] Until recently all fresh water was rainwater. Tonga is subject to
[731] hurricanes and not infrequently thousands of coconut and banana trees, the basis of their cash economy, are ruined.

PEOPLE AND LANGUAGE

161 This is the geographical setting in which nearly 70,000 people play their daily social roles. The figures of the last Tongan census,

[431 cont.]

175 cultivated, complicated, and elegant than at the Society Islands.
171 But, in return, the opulence, or rather luxury, of the Taheitians
[181] seemed to be much greater. We saw but few hogs and fowls here, and
[433] that great support of life, the bread-tree, appeared to be very
[23] scarce. Yams, therefore, and other roots, together with bananas,
[262] are their principal articles of diet. Their cloathing too, compared
[291] to that of Taheitee, was less plentiful, or at least not converted
[342] into such an article of luxury as at that island. Lastly, their
[351] houses, though neatly constructed, and always [432] placed in a
175 fragrant shrubbery, were less roomy and convenient. We made these
171 reflections as we advanced towards the landing place, where several
511 hundred natives were assembled; and their appearance immediately
struck us with the idea, that if they did not enjoy so great a
profusion of the gifts of nature as the Taheitians, those gifts
175 were perhaps distributed to all with greater equality. We advanced
609 among them, and were accosted with caresses by old and young, by men
201 and women. They hugged us very heartily, and frequently kissed our
hands, laying them on their breast, with the most expressive looks
175 of affection that can be imagined. The general stature of the men
141 was equal to our middle size, from five feet three to five feet ten
175 inches. The proportions of the body were very fine, and the contours
142 of the limbs extremely elegant, though something more muscular than
at Taheitee, which may be owing to a greater and more constant exertion
of strength in their agriculture and oeconomy. Their features were
extremely mild and pleasing, and differed from the Taheitian faces,
in being more oblong than round; the nose sharper, and the lips rather
[302] thinner. Their hair was generally black and strongly curled, and
[237]

[443 cont.]

175 I believe we should have been entirely left to ourselves if we had
123 not engaged two of them to become our conductors. The discharge of
609 our guns, and their effect, neither excited their admiration nor
their fear; but they always appeared kind and courteous towards us.
175 Their women were, in general, [444] reserved, and turned with
609 disgust from the immodest behaviour of ungovernable seamen, some of
832 them however appeared to be of easy virtue, and beckoned to our
people with lascivious gestures."

175 The next morning early the captain went on shore with us,
124 and presented the chief with a variety of garden seeds, explaining
431 by signs how useful they would prove to him. This was as yet our
175
124 only mode of conversation, though we had picked up a number of words,
197 which, by the help of the principles of universal grammar, and the
idea of dialects, we easily perceived had a great affinity with the
[114] language spoken at Taheitee and the Society Isles. O-Mai and
Mahine (or O-Hedeedee,) the two natives of Raietea and Borabora
who embarked with us, at first declared that the language was totally
new and unintelligible to them; however, when we explained to them
the affinity of several words, they presently caught the peculiar
modification of this dialect, and conversed much better with the
natives than we could have done after a long intercourse with them.
175 They were extremely well pleased with this country, but soon perceived
433 it defects, and told us there was but scanty provision of bread-fruit,
[231] few hogs and fowls, and no dogs, which was really the case. In return,
[276] however, they liked the abundance of sugar-canes and of intoxicating
[609] pepper, of which the drink had been offered to captain Cook.

[447 cont.]

000
175
648
[439] out of the boat. A party of the marines were posted on the beach in case of danger, to protect the captain's clerk, who traded for provisions. The natives did not express either surprize or dislike at this proceeding, perhaps because they were unacquainted with its

175
609
133
175
439
231
237 meaning. They received us with acclamations of joy as at Ea-oowhe, and desired us to sit down with them on the rocks along shore, which consisted of coral, and were covered with shell sand. We purchased several beautiful parroquets, pigeons, and doves, which they brought to us perfectly tame; and our young Borabora-man Mahine (or Hedeedee) traded with great eagerness for ornaments made of bright red feathers, which he assured us had an extraordinary value at Taheitee

175
292
237
824 and the Society Islands. Here they were commonly pasted to aprons used in their dances, and made of the fibres of [448] coco-nut, or fixed upon banana leaves, forming rhomboidal frontlets or diadems, &c.

000 With a degree of extasy which gave the greatest weight to his assertion, he shewed us that a little piece of feathered-work, as broad as two or three fingers, would purchase the largest hog in his island .

114
175 Both this youth and O-Mai were much pleased with the inhabitants of these islands, and began to understand their language tolerably well.

175
311
[137] We left the beach after the first acquaintance with the natives, and ascended a few feet into a wild forest consisting of tall trees, intermixed with shrubberies. This wood though narrow, being in many places not above one hundred yards wide, was continued along the shore of Van Diemen's road, being more or less open in various parts. Beyond it the whole island was perfectly level. We walked across a piece of uncultivated land, about five hundred yards wide, which adjoined to the wood. Part of it appeared to have been planted

[458 cont.]

175 [609] of the inhabitants, under the shade of the wild wood which lined the coast. There they lighted numerous fires, and were heard conversing during the greatest part of the night. It seems their eagerness 175 439 to continue the trade with us, would not permit them to return to their dwellings, which were probably situated in the remotest part of the island. Our goods were in great repute with them. Nails, which the natives commonly hung on a string round the neck, or stuck through the ear, were very current for fowls, and smaller ones 175 231 for bunches of bananas, and coco-nuts. Their fowls were the largest we had ever seen, and extremely well-tasted. Their plumage was commonly very glossy, and beautifully coloured with red and gold. 175 439 Our sailors bought numbers of them, in order to enjoy the barbarous amusement of seeing them fight. From the time of our leaving Huahine, 000 they had daily followed the cruel occupation of tormenting these poor birds, by trimming their wings, and incensing them against each other. They [459] had so well succeeded with those of Huahine, that some of them fought with the most desperate fury of true gamecocks; but they were well disappointed with those which they purchased at Tonga-Tabboo, and as they could not make them fight, they were forced to eat them in revenge.

175 565 [291] Early the next morning, A the captain's friend Attahha or Attagha (see p. 447.) B came on board in one of the first canoes, and breakfasted with us. He was drest in mats, one of which, on account of the coolness of 175 565 the morning, he had drawn over his shoulders. He resembled all other uncivilized people in the circumstance that his attention could not be 114 [126] fixed to one object for any space of time, and it was difficult to prevail on him to sit still, whilst Mr. Hodges drew his portrait. An

A [5 October--Analyst.] B [i.e. p. 37-8 of HRAF manuscript--Analyst.]

[459 cont.]

An excellent print, executed by Mr. Sherwin, has been made from his drawing, which expresses the countenance of this chief, and the mild character of the whole nation, better than any description. It is inserted in captain Cook's account of this voyage, and represents Attahha in the action of thanksgiving, laying a nail on his head, which he had received as a present. After breakfast, the captains and my father prepared to return to the shore with him; but just as he was going out of the cabin, he happened to see a Taheitian dog running about the deck; at this sight he could not conceal his joy, but clapped his hands on his breast, and turning to the captain, repeated the word goorree(15)

15. Ooree signifies a dog at Taheitee; and ghooree at New Zeeland.

[460] near twenty times. We were much surprised to hear that he knew the name of an animal which did not exist in his country, and made him a present of one of each sex, with which he went on shore in an extasy of joy. That the name of dogs should be familiar to a people, who are not possessed of them, seems to prove either that this knowledge has been propagated by tradition from their ancestors, who migrated hither from other islands, and from the continent; or that they have had dogs upon their island, of which the race, by some accident, is become extinct; or lastly, that they still have an intercourse with other islands where these animals exist.

I remained on board all this day, to arrange the collection of plants and birds which we had made upon our first excursion, and which was far from despicable, considering the small size of the island. The natives continued to croud about our vessels in a number of canoes, whilst many were swimming to and from the shore, who were probably not rich enough to possess a canoe. These embarkations were of different

[478 cont.]

175 for water, and the master had been sent to the eastward to survey
122
312 Maria Bay, and the low isles which shelter that harbour. The situation
175 of these islands he found very exactly represented in the charts
136 of the ever accurate Tasman, and on one of them where he landed,
he saw an astonishing number of speckled water-snakes, with flat
tails, which are harmless, and distinguished in the system of
175 Linnaeus, by the name of colubri laticaudati. In our branch we
126 had not been unsuccessful, this little island having afforded us
137 several new plants, among which was a new species of jesuit's bark,
or cinchona, [479] of which the bitter bark may perhaps be equally
175 efficacious with that of Peru. We also collected several birds
23 unknown before, and purchased some live species, particularly of
[126]
[439] the parrot and pigeon tribe, of the natives, who seem to be very
[136] expert fowlers. But it did not appear to us, that the pigeons,
[554] which many carried perched on crooked sticks, were marks of
[171] distinction, though Schouten at Horne Island where the same custom
175 prevails, is of that opinion (25). In the last boat which
565
431 25. See Mr. Dalrymple's Historical Collection, vol. II. p. 46.
609 had brought our people on board in the evening, the Latoo or king
had sent a great quantity of vegetables, together with a whole hog
roasted, or dressed under ground, as a present to the captain. In
the morning therefore, we embarked early in the pinnace, and rowed
[152] to the shore to make a present in return. We found the Latoo sitting
at a little distance from the beach; and captain Cook gave him
a shirt, a saw, a hatchet, a brass kettle, and several articles
of less moment, all which he received with sullen gravity;
this deportment he never varied, except once, when he was seen to
smile as he conversed with Attaaha.

342 quarters of the household head and his wife from the rest of the house. The larger portion of the interior is used for working, receiving guests, kava parties, eating, and as a bedding area for children and other members of the household.

351 Compounds often have small garden plots of decorative or edible plants, and hedges are a common feature around compound borders. Palms, (245) breadfruit trees, mangoe trees, and other large plants with fruits or barks of an edible or medicinal value are left standing in the compound, (162) (857) but all other vegetation is removed. The lawns are cut and swept by the women and children of the household. Pigs, goats, chickens, cows and (231) horses are often picketed or penned within the compound.

Relationships within the Household

592 594 Most Tongans have a preference for living in nuclear family households and this pattern is generally followed. Of the forty-two households in Puke, forty-one are nuclear families, eight of which contain an unmarried relative of the household head or the household head's 592 wife. One household includes three conjugal pairs, but two of the married couples were only recently married and have not yet established independent households. Village households have a mean size of 6.52 persons. (The 1966 Census of Tonga shows a mean household size of 6.9 persons for Tongatapu.)

592 594 A household, then, most frequently consists of a man, his wife, and their real or adopted children. Within his own house a man is tangata 'eiki 'chiefly man', and is the authority of the household.

262 554 cassava from his garden to feed his family is criticized for being a lazy man. Boiled green banana are usually thought of as the last resort for a meal.

262 Pigs are the most prestigious food and discussions about the quality and quantity of feasts are carried on in terms of the number and 262 size of pigs consumed at the feast. Pigs are grouped into five cate- 231 gories according to "size", which is actually determined by height. Below I have listed the categories from largest to smallest and included the approximate price range of each type to indicate value. Any pig with tusks protruding from the lips is placed in the highest category regardless of its size.

435

1. puaka toho	$T60.00 -	$T100.00
2. puaka hula	40.00 -	60.00
3. puaka hahamo	20.00 -	40.00
4. puaka fakahungo	10.00 -	20.00
5. umu kaveitau	5.00 -	10.00

262 The major cuts of a pig in order of preference and associated pres- 252 tige are (1) fakala'a, (2) huohua, (3) fuefue, (4) keumu'i, and keumu'a (Figure 3). Skin of the back, cooked to a deep brown, and liberally coated with salt is the favorite of nearly all Tongans. For feast occasions pigs are usually cooked whole in an earth oven or spicted and roasted over coals.

231 Pigs are the best cared for of all domestic animals. They are sometimes penned or picketed and usually fed daily with the skin of yams, taro, sweet potatoes, vines from yam and sweet potato plants, and coconut meat.

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 Niuatoputapu: on edge of mountain ridge above Vaipoa, Dec. 5, 1951, *Hürlimann 354.*

Frequent in thickets throughout Tonga. Southeastern Asia and Malaya to Polynesia. Now widely grown as an ornamental and as a forage crop.

Tongan names: *aka, akataha, fuc'acpuaka.*

[231] [278] [261] [824] This plant[1] is said to be especially relished by swine. Parts of it are used in medicines, and the roots may be eaten in times of food scarcity.

Genus **Canavalia** de Candolle

Canavalia ensiformis (Linnaeus) de Candolle, in DC. Prodr. 2: 404. 1825.

Subglabrous, subwoody vine. Leaves alternate, trifoliate, leaflets ovate or oblong-ovate, acuminate, base rounded, obtuse, up to 15 cm. long and 6 cm. wide. Flowers pink, subsessile, reflexed, in long, axillary, spikelike racemose clusters; pod about 15 cm. long and 2 cm. wide, flat.

Vava'u: *Crosby.*

A tropical American species now widespread in warm countries.

Canavalia maritima (Aublet) Thouars, in Jour. Bot. Desv. 1: 80, 1813.

Rather coarse, herbaceous vine. Leaves alternate, trifoliate, leaflets rather thick, suborbicular, subovate or subobovate, obtuse, base rounded, obtuse to acute, up to 12 cm. or more long and nearly as wide, pubescent, hairs appressed. Flowers about 2 cm. long, short-pedicellate, in long-pedunculate axillary racemes, corolla pink; pods up to 10 cm. long, broadly linear, seeds brown.

'Eua: *Lister.*

Lifuka: in thicket along road to north of Pangai village, Apr. 25, 1953, *Yuncker 15714.*

Kao: in thicket, border of old plantation, May 6, 1953, *Yuncker 15958.*

Occasional throughout Tonga. A tropical American species now widely disseminated in tropical countries.

Probably the *C. obtusifolia* (Lam.) DC. of Hemsley's list.

Tongan name: *lautolu'uta.*

Canavalia microcarpa (de Candolle) Piper, Biol. Soc. Washington, Proc. 30: 177, 1917.

Rather coarse, herbaceous vine. Leaves alternate, leaflets ovate, acuminate, base rounded, obtuse, up to 15 cm. long and 8-10 cm. wide. Flowers purplish or pinkish, up to 3 or 4 cm. long, short-pedicellate, few, on rather long, axillary peduncles; pods thick, three-angled on one edge, up to 12 cm. long and about 5 cm. wide, pointed, seeds ovoid, flattened, brown.

Tongatapu: *U.S. Expl. Exped.*

Southeastern Asia and Malaya to Polynesia.

C. ensiformis (L.) DC. var. *turgida* Hemsl. in Hemsley's list [?].

1 /Pueraria lobata -- Analyst/

79: Lātūkefu H,I, M-4,5 (1964-1965) 1974
(1822-1875)
OU9 Tonga OU9

they were capable of intensive labour to supply their needs. To the missionaries, however, all idleness was a breeding ground for sin and crime, and they determined to put an end to it. A reflection of this sentiment may be seen in Section 3 which exhorts the chiefs to show love to the people under them but to require them to be industrious and perform their duties to the government and to the chiefs. It also states that the chief should apportion land to the people, sufficient to enable them to procure the necessities of life and support a family. And in order to safeguard the gardens, provision was made to that effect in Section 5 which prohibited anyone to allow his pigs to run loose and damage other people's gardens.

Sale of rum and other spirits to the Tongans was a cause of constant worry to the missionaries. One of the later missionaries wrote to the General Secretary of the mission on the subject. 'What will be said when a Tonga man drinks 3 bottles of strong spirit in one day and laughs at it and says he did not take enough to make himself drunk, and yet this is the case. Will not the curse of the Holy one be upon those Europeans who thus bring the cup of death to this (sic) . . . islanders' (Baker to Eggleston, 18 Dec. 1861, Baker 1860-79). Some years later, when one of King George's sons died, the missionaries did not hesitate to attribute his death to excessive drinking. The prohibition of the sale of hard liquor by the new laws and its being punishable by 'a fine to the King of Twenty Five Dollars'[2] and a liability 'to have the spirits taken from him', was obviously a reflection of the missionaries' sentiment.

The missionaries' attitude to heathen customs and traditions (especially those which had any religious connection) was one of uncompromising intolerance. They identified Christianity with 'civilisation' and the latter with the habits and customs of an English town or village, and anything contrary to them, such as Tongan customs and traditions, was uncivilised or unchristian, and therefore ought to be destroyed. Bishop Blanc (1934:38) asserts that 'It seemed to be the aim and object of the former [Wesleyan missionaries] to instill into the minds of the people the idea that all pleasures were sinful. To this end they prohibited,

[2] This was a Spanish dollar and it was worth four shillings sterling.

87: Wood M,Y-4,5 (no date) 1932 OU9 Tonga OU9

132 The prevailing winds, which considerably temper the heat, are the South-East Trade Winds. The ocean-currents are also from the south-
133 east; interesting proof is found in the fact that wreckage from the steamer "Tahiti," which foundered about 500 miles south-east of Togatabu in August, 1930, had drifted to the east coasts of Vava'u and the Ha'abai islands by the following December.

132 Hurricanes are seldom experienced in Togatabu, but they some-
731 times occur in the northern islands where they work great havoc to plantations and buildings. The most disastrous hurricanes of recent years happened in 1912 and 1913 in Vava'u and Ha'abai. Niua Fo'ou was ravaged by successive blows in December, 1930, February, 1931, and March, 1932, and the hurricane of December, 1930, destroyed almost every house in Niua Tobutabu.

731 Earthquakes are fairly common but are not severe, as a rule.
133 Instances of damage caused by tidal waves accompanying shakes are recorded in some places such as Lifuka and 'Uiha, low islands of Ha'abai.

ANIMALS AND PLANTS.

136
231 Pigs, fowls and rats seem to have been brought to Tonga many
[439] centuries ago; as already noticed, Tasman, Cook and other voyagers
[175] exchanged iron goods for pigs and fowls. Hunting rats was a favourite
[224] sport of the chiefly archers in former times. Pigs and fowls still form the
[262] only meat-diet of the village-people. Their gardens are often spoiled by roving pigs; and these creatures infest some uninhabited islands such as Tofua, while the distant island of 'Ata swarms with fowls. Snakes
136 are unknown, but there are several varieties of lizard, including a green lizard (fokai). There are numerous insect pests, such as centipedes and mosquitoes.

231 Europeans have introduced horses, cows, goats, turkeys, etc.
[175] Cook presented the first horses, cows and sheep to Bau, Maealiuaki and
[177] Finau in 1777; the cattle were called Cook's "pigs" (buaka Tute) by the natives, a circumstance which has given rise to the fiction that Cook brought pigs to Tonga. These islands are not very suitable for sheep.

Government statistics show the following animals in Tonga in 1931:—7,467 horses, 1,661 cattle, 7 sheep, 18,231 pigs, 4,028 dogs, and 2,148 goats.

136 In 'Eua there is a green parrot which will not breed if taken else-
where. Probably the strangest bird in the group is the megapodius (malau) at Niua Fo'ou which flies badly and leaves unusually large eggs to be hatched in the sand; this bird is also found in the Solomon Islands
[237] but nowhere between that group and Niua Fo'ou. The tavake is a bird
[566] whose blood-red tail-feathers were worn only by chiefs. As previously stated, the absence of running water accounts for the rather small number of birds in the group.

Reference has already been made to the large number of flying-foxes which find sanctuary at Kolovai, in Western Togatabu.

The sea everywhere abounds in fish, and sharks are plentiful.
226 The people are expert fishermen, but of all their methods none is stranger

87: Wood M,Y-4,5 (no date) 1932 0U9 Tonga 0U9

than the way in which they noose sharks: instances of sharks attacking natives are very rare. Whales are sometimes caught. Turtles are also plentiful. Perhaps the most interesting creature in Tonga is a land-tortoise, now kept in the Palace grounds at Nuku'alofa, and reputed to have been left by Captain Cook; it has been scarred by bush-fires and other accidents, but in its old age it is honoured as though it were a chief and is called Tu'imalila, after a part of Labaha called Malila.

The graceful coconut-palm is the most distinctive as well as the most valuable of plants in Tonga. All parts of the islands being very close to the sea, coconut trees thrive everywhere, and copra, the dried kernel of the nut, is the staple product. Other plants which grow in profusion are many varieties of banana, plantain, yam, sweet potato, talo, manioc, sugar-cane, pineapple, breadfruit, papaw-apple, mango and arrowroot. Coffee, cocoa and cotton have been introduced but are not yet extensively grown. Various European vegetables have also been introduced, and corn has proved the best cereal for this climate.

Bananas, sweet potatoes, pineapples, tomatoes, pumpkins and oranges could be exported in abundance, if markets were available. The staple foodstuffs of the people are yam, sweet potato, talo, manioc, kabe, plantain, breadfruit, etc.

The bark of the paper-bark mulberry is extensively used for making native cloth (taba and gatu), and the sap of the koka tree is used for stamping this cloth. Mats are made from the leaves of the pandanus, but unfortunately this domestic manufacture is declining generally, except in Ha'abai. The trunks of the toa (ironwood) and koka are used for the posts of native buildings, but timber generally suitable for building European houses is not found in Tonga. The ironwood or casuarina tree was used for making clubs and spears formerly, and is still used for spade handles and mallets. The best of the old canoes were brought from Fiji, where more suitable timber for all purposes is available.

Kava, the juice of a species of pepper-plant, is the national drink on all occasions. Other interesting trees are the ovava, a species of banyan; gatae and tuitui (candle-nut) used for marking boundaries; Malayan apple or fekika, tava, and the ifi, whose leaves were hung round the neck in token of surrender or penitence in olden times.

Government statistics in 1931 show a total of 2,658,644 coconut trees and 832,655 banana plants in the Kingdom, 94% being owned by Tongan cultivators.

EXPORTS.

Tonga is entirely an agricultural country, being without minerals and secondary industries. It is unfortunate that there are still fairly considerable areas of undeveloped land even in such a small country, especially in Togatabu and 'Eua, and further that several hundred taxpayers have no allotments; this latter condition is mainly due to indolence on the part of some who live in the chief towns, but in the case of the overcrowded islands of Ha'abai it rises from rather a natural reluctance to leave an old home. The Government is now making strenuous efforts to enforce both more systematic cultivation of coconut-growing land and

137 rotundus); sakisi (Euphorbia hirta); pakopako or pakopako 'ae kuma (Kyllingia monocephala); vailima (Paspalum conjugatum); tamole (Portulaca oleracea); mo'osipo (Truimfetta bartramia) (Merrill, 1945; Stone, 1970; Yuncker, 1959).

136 **Fauna**

In contrast to the rich surrounding marine fauna, Tongatapu is poor in indigenous terrestrial fauna. Apart from the fruit bat or flying fox (Pteropus tonganus) and a small insectivorous bat (possibly Emballonura semicaudata) (Derrick:1951), there are no native mammals. There are no amphibians, and terrestrial reptiles are represented by a small number of lizards, skinks, geckos, and the banded iguana (Brachylopus faciatus). Native birds include rails, herons, kingfishers, doves, fruit pigeons, cuckoos, owls, and numerous sea birds. Native invertebrates, especially insects, are well represented by mosquitos, flies, bees, beetles, aphids, ants, cockroaches, centipedes, spiders, scorpions and nematodes, as well as many other groups; some of these have a significant effect on the Tongan agricultural system.

The introduced fauna, however, seems to have had a greater effect than the native fauna on the agricultural system. The Polynesian rat (Rattus exulans), the pig, the dog and the fowl were supposedly introduced by early Polynesian inhabitants. The roof or ship rat (Rattus

136
231

136 rattus), the Norwegian rat (Rattus norvegicus), as well as
231 cats, cattle, horses, goats, sheep , turkeys, ducks, and possibly insects such as the rhinoceros beetle (Oryctes rhinoceros) and fruit flies were introduced after European
231 contact. Dogs, cats, pigs, cattle, horses, goats, chickens, ducks and turkeys are presently important domesticated
136 animals. There are presently no sheep in Tonga. Rats have become naturalized, and cats and chickens are represented by feral stock; there were formerly also feral pigs.

The fruit bat or peka is nocturnal and feeds almost exclusively on fruit such as bananas, mangoes, and papayas. Although the fruit bat population is increasing, the
[262] problem is not considered serious. Furthermore, the peka
[565] provides an excellent source of protein, which, although supposedly reserved as a delicacy for the nobility, is eaten occasionally by commoners.

[241] Rats constitute a major nuisance and cause consider-
245 able damage to a variety of crops. Owing to the economic
136 importance of copra, most of the research concerning rat damage has been focused on its effect on coconut production. Estimates of loss in coconuts have ranged up to 80 percent. Recent studies, however, indicate that this is a gross overestimation and that loss of yield in any individual stand of coconut palms is rarely over 10 percent (Pierce, 1971b: personal communication). Rattus rattus comprised 80 percent of all rats trapped in coconut palms during the

642 appointment of Europeans to high Tongan government
648 positions (Wood, 1945:62).

Since 1905, the Tongan government has, with British
643 guidance, functioned without major problems. After the death of Tupou II, his daughter, Queen Salote Tupou III, reigned from 1918 to 1967, at which time she was succeeded
642 by her son, the present king, Taufa'ahau Tupou IV. In 1958,
648 a new "Treaty of Friendship" with Great Britain (ratified in 1959) gave the Tongan government increased freedom and, finally, in June 1970, Tonga obtained complete independence, at the same time becoming a member of the British Commonwealth.

177 Throughout Tonga's history, the exposure to other
241 cultures and their technologies has had considerable effect on the agricultural system. Contacts with other Pacific Island cultures such as the Fijians and Samoans encouraged trade, which put both social and economic value on Tongan products. These contacts also led to the introduction of various cultigens and animals that are now important components of the agricultural system.

[231] The early European navigators and explorers exposed Tongans to firearms and other European technology, and Cook introduced new cultigens and domesticated animals: melons, pineapples, pulses, cattle, sheep, horses, rabbits and deer
177 (Beaglehole, 1967:120 and 1969:262). Further contact with whalers, trading vessels, runaway sailors, and escaped

241 312 Because there are no surface streams on Tongatapu, the required water must come from either wells or storage tanks. Of 134 sample households, only 33 percent water for cropping on their bush allotments. Of the 134 households, 13 percent had wells; 1 percent had cement catchment system; and 20 percent transported water from their town allotment or from other bush allotments. There are motorized pump irrigation systems on large plantations, lands of the missionary societies, and on a few bush allotments that were not included in the sample survey.

On town allotments irrigation is more prevalent. Out of 150 sample households, there was a greater percentage of households with dependable water sources: 29 percent with wells, 15 percent with cement tanks, 9 percent with corrugated iron tanks, 9 percent with private piped-in water, and [365] 70 percent with access to a public water system. In the area of Nuku'alofa where there is a public water system, there is a corresponding increase in the intensity and 241 diversity of cropping and planting or ornamentals. This 231 however, is due partially to a law prohibiting unpenned or 656 untethered pigs and other animals in town.

242 The Department of Agriculture's Experimental Farm at 654 Vaini and a number of missionary societies have experimented 241 with a wide variety of new crops in an attempt to improve subsistence and commercial agricultural production. These 241 experimental crops, as well as many past introductions such 242

241 as sorghum, rice, soybeans, and macadamia nuts, are very
242 rarely found on bush or town allotments. With the exception of seeds for watermelons and garden vegetables, which are generally purchased at the large trading stores in Nuku'alofa, most planting material for crops grown on the allotments is obtained by Tongans either from their own stock or from friends.

231 The Department of Agriculture has, since 1968, begun
654 Pig, Poultry and Cattle Subsidy Schemes designed to upgrade
[241] Tongan livestock production. The Pig Subsidy Scheme, which was initiated in 1968, provided three weaner pigs, bred from New Zealand stock, to Tongan farmers who were willing to construct suitable pig sties with cement floors and a water supply, and to plant approved food crops--such as manioc, corn, and sweet potatoes. The Department also supplied the farmer with sufficient protein supplement until pigs reached slaughtering weight. The pigs were then to be marketed, after which the farmer would be credited with money to buy his own breeding stock and protein supplement to start his own pig farm (Government of Tonga, 1969a:15).

235 The Poultry Subsidy Scheme, initiated in 1971, provides
654 one-half of the initial poultry stock to those farmers who construct poultry houses according to Agriculture Department
[439] specifications. The poultry distributed to farmers is reared from New Zealand stock imported since 1970. Additional aims of the Poultry Subsidy Scheme include a

235 654 hatchery to sell day-old chicks to farmers at half the current price of imported stock and the construction of slaughtering facilities at the Government Farm in Vaini.

233 654 The Cattle Subsidy Scheme, which was initiated in 1972, is a long-term project designed to make Tonga self sufficient in beef production. The Scheme subsidizes barbed wire fencing, a reticulated water system, and the clearance of land; it plans to distribute heifer calves at a subsidized price to members of the Scheme who meet minimum standards. The minimum size allotment required for membership in the scheme is 4 acres, although as of December 1971, 35 farmers who had been accepted by the Scheme had allotments averaging the standard 8 1/4 acres (Department of Agriculture, 1971:37-38). Also under the Cattle Subsidy Scheme is a pasture improvement program, under which sirato (Phaseolus atropurpureus), pangola grass (Digitaria decumbens), Para grass (Brachiaria mutica), and elephant grass (Pennisetum purpureum) have been introduced (Nusbaum, 1972).

233 654 246

232 231 654 [439] In addition to these primary schemes, the Department of Agriculture has also imported Santa Gertrudis, Hereford, and Friesian bulls and other cattle as well as high quality pig breeding stock to upgrade local stock through "Honeymoon Schemes" where farmers bring their animals to the Government Farm to be mated to these animals. In another program, stallions are taken to villages where they are bred to local

231 mares to upgrade the standard of work horses in the Kingdom.
232
654 Owing to the rapid elimination of native forest species
654 on Tongatapu, as a result of the need for firewood and
245 timber for banana shooks and other purposes, the Agriculture
318 Department has a limited reforestation program, which
[313] includes nurseries at Sopu on Tongatapu and on 'Eua and the issuance of seedlings to interested allotment holders. The major species which have been planted by individual allotment holders have been Casuarina equisitefolia, Eucalyptus spp., and Grevillea robusta, all natives of Australia, and the tropical American Cedrela odorata. The only major reforestation project in the Kingdom has been conducted on 'Eua, where 200 acres of Pinus caribaea have been successfully established (Government of Tonga, 1971c:26). On Tongatapu, there are only limited cases where farmers have planted introduced forest species on their allotments.

241 In conclusion, the overall effect of the recent
231 introductions of new techniques and plant and animal
179 material on the Tongan agricultural system seems to have
241 been minimal. This is in spite of considerable subsidies
231 offered by government agencies and a recently expanded
654 agricultural extension program, yearly agriculture shows,
207 a system of "Rural Broadcasting" designed to improve agri-
179 cultural education over the radio, the establishment of a Government Agricultural Training Center at the Experimental Farm in Vaini, and a continued overall effort by the Agri-

241
231
654
179
[207]

culture Department to introduce improved plant and animal varieties as well as improved husbandry practices. Out of 149 sample households only one belonged to the Pig Subsidy Scheme and none to the Poultry or Cattle Subsidy Schemes. Where farmers have received help from these or the Banana Subsidy or Coconut Replanting Schemes, few have adhered to the specifications after receiving the benefits (Knowles, 1971, personal communication; Nusbaum, 1972, personal communications; and Liyanage, 1971 personal communication).

241
231
179

The main effects of these attempts to bring about change seem to be an increased planting of commercial crops such as bananas, watermelons, and European vegetables and limited expansion of livestock production. Other effects include increased production of crops suitable for livestock feed, such as manioc, sweet potato, and corn, isolated instances of introduced pasture grasses, improved or new crop varieties, and introduced forest species. There is also some evidence of limited changes in general maintenance and husbandry practices on both bush and town allotments.

241 stay overnight at the bush allotment.

241 Wells were found on 6 allotments and a cement rain -
312 catchment tank was present on another. On 4 of these, there were permanent dwellings and on 3, garden vegetables were grown.

241 There were 11 allotments with copra driers; 7 of these
245 had permanent dwellings and two had substantial temporary dwellings.

241 Good condition barbed-wire fencing was found around
417 parts of 10 allotments, poor condition fencing around 2, and another 24 had some fencing along one side or across
241 the central portion of the allotment. In almost all cases, fences were used to protect crops from livestock, particu-
241 larly horses. Although treated wood fenceposts are becoming
417 increasingly common, living fence posts such as ngatae
245 (Erythrina variegata) and fiki (Jatropha curcas) are more common.

241 As for accessibility, 89 allotments had some kind of
491 roads bordering or through the property; of these, only 29 had paved coral or black-top roads. In about half of the cases where allotments had unpaved roads, these were often impassable, except by horsecarts. There is a continuing effort to improve accessibility by expanding the paved feeder-road system.

241 There were 10 allotments with pigs; in 7 cases, they
231 were either tethered or roaming free. On all but one of

24| these allotments there were permanent dwellings. There were
23| tethered horses on 15 allotments, 7 of which had permanent dwellings; goats on 3 and cattle on 1, all where permanent dwellings were present; chickens on 13, in 12 cases near permanent dwellings; and ducks on 2, both near permanent
[235] dwellings. In only one case were chickens kept in pens in large numbers. Holders of allotments without permanent dwellings may keep most animals on their town allotments.

312 upon a common public water tap.
369

Table 45. Frequency occurrence of specified water systems on 192 town allotments (113 in Nuku'alofa and 79 in rural villages).

Water System	Nuku'alofa Occurrences	Rural Occurrences
Private tap	41	-
Well	48	2
Rainfall catchment	41	13

231 There was also considerable livestock keeping on town allotments which, in many cases, tends to affect the types of plants that can be grown there (Table 46). Chickens, goats, cattle, dogs, and cats were found with similar frequencies on town allotments in both Nuku'alofa and the rural villages. Of the 141 allotments with chickens, 19 allotments had improved chicken breeds for egg production, 13 of these in Nuku'alofa. Pigs and horses, however, which cause the most widespread damage to crops, were much more abundant on rural town allotments. Furthermore, in Nuku'alofa, on only 7 percent of the allotments were pigs allowed to roam free, whereas in the rural villages, pigs were allowed to roam free on 67 percent of the allotments. Even in Nuku'alofa, where it is illegal for pigs and horses

231
369
[235]
[241]
[241]

Table 46. Frequency occurrence of specified animals on 192 town allotments (113 Nuku'alofa and 79 in rural villages).

Type	Nuku'alofa Occurrences	Rural Villages Occurrences
Chickens	80	61
Dogs	69	53
Pigs	51	67
Horses	31	47
Cats	33	24
Ducks	18	2
Goats	10	10
Cattle	9	4

to roam free, considerable crop damage is caused by escaped animals. Ducks were more commonly found in the more low-lying and swampy areas of Nuku'alofa.

Staple Crops

The same range of staple crops was found on town allotments as on bush allotments (Table 47). However, crops such as manioc (*Manihot esculenta*), yams (*Dioscorea alata*), and sweet potatoes (*Ipomoea batatas*), which were common in large acreages on bush allotment, were present

241 were more common (plantains and bananas are included as
244 staple crops here because they are not cultivated commer-
[245] cially on town allotments). In Nuku'alofa, these crops were grown on more than one-third of all sample allotments. Swamp taro was most common, possibly because of the swampy nature of the low-lying area of Nuku'alofa and the ease with which it can be planted.

241 The cultivation of all staple crops seems to be much
369 more widespread on Nuku'alofa town allotments than on the rural town allotments. There seem to be three major
[423] factors influencing this distribution. First, a higher proportion of people in the Nuku'alofa area have neither tenure or access to bush allotments (Table 48) and consequently depend upon the market and their town allotments as primary sources of agricultural products. Secondly, rural houses are generally closer to their respective bush allotments, which facilitates their use for crops which are
[685] especially susceptible to theft. Theft seems to be increasingly bothersome and, consequently, crops which can be grown safely on the nearby bush allotments of rural residents are often grown to a greater extent by Nuku'alofa
241 residents on their town allotments. Finally, probably
369 the major deterrent to more extensive cropping on rural
• 231 town allotments is the presence of free roaming pigs and other animals. In Nuku'alofa, it is illegal for pigs and other animals to roam free.

241
245
[136]
[231]
beetle, and coconut stick insect predation, with little or no attempt at control. The damage caused by these pests, plus damage to young palms by fire and escaped or grazing livestock, was considerable.

241
Pest control, in general, was rare except for commercial crops. Here the purchase of pesticides, fungicides,
241
654
and herbicides was usually borne or at least subsized by the Agricultural Department or the Commodity Boards. In the case of control of black-leaf-streak in bananas, misting oil was actually applied by Department of Agriculture personnel.

241
312
Formal irrigation systems were rarely if ever found on bush allotments, and simple wells were found on only about one-tenth of all bush allotments. The use of water for irrigating short term crops such as vegetables and watermelons generally required carrying water in drums from the town allotments or from nearby wells.

241
242
The effect of the "Green Revolution" seemed to be almost non-existent. Although the Government Experimental Farm has successfully grown a wide range of new plants such as sorghum, soybeans, rice, and macadamia nuts, very few have been integrated into traditional cropping sequences. In some cases, garden vegetables such as tomatoes, capsicum and bulb onions were planted, but these often required additional non-traditional and expensive inputs such as fertilizers, insecticides, fungicides, and irrigation.

241 417 [245] Fencing, generally to protect crops such as paper mulberry (Broussonetia papyrifera) from destruction by livestock, was found on a number of bush allotments. On 10 percent of the sample allotments good condition barbed wire fencing was used around at least some portions of the land. On others, poor quality fencing or live fences and hedges were found; Erythrina variegata and Jatropha curcas were commonly used.

241 361 [231] Permanent residences were found on 13 percent of the sample bush allotments. These allotments were generally more intensively cultivated and fruit trees, useful plant species, and livestock were comparatively numerous. Temporary thatched houses were found on many bush allotments; these are generally used in guarding valuable crops.

241 231 [262] In some cases, livestock, primarily horses and cows, were tethered or allowed to graze on bush allotments. Most livestock, especially pigs, chickens, ducks, goats, and dogs (which are commonly eaten) were generally kept on town allotments. In almost all cases where these animals were found on bush allotments, the farmer's permanent residence was situated there also.

241 178 [137] In short, the agricultural system, as practiced on bush allotments, seems to have retained much of its traditional character. The types of crops and protected plants, intercropping practices, and plant successions have undergone few major changes. Some changes which have taken

241 range of subsistence products.

241 The average town allotment generally has at least one
35 main dwelling or sleeping house (fale mohe) plus a number
[342] of other structures, such as separate kitchens (peito),
[343] wash houses (fale kaukau), outhouses (fale vao), and in
[369] some cases pig sties. On a majority of the town allotments in Nuku'alofa, and to a lesser extent in the rural villages, fences were found around the entire allotment or around
[417] portions used for keeping livestock. Fences for livestock
[245] were usually of barbed wire. Those which were more ornamental or used to delineate property boundaries were often living fences or hedges, most commonly of Hibiscus spp.
241 and Nothopanax spp. Wells, rainfall catchment systems, and
312 private water pipes were common on town allotments in
369 Nuku'alofa. In the rural areas, water was generally obtained from centrally located village water pipes.

241 Within this setting, a great variety of livestock,
231 staple crops, and other valuable plants and trees were found. Almost all allotments had some livestock; over half had chickens, dogs, and pigs, while horses, cats, ducks,
241 goats, and cattle were found on several. In Nuku'alofa, the
231 law prohibits pigs and other animals except poultry roaming
369 free. On rural town allotments, however, over half of those sampled had loose pigs. These constitute a major deterrent
241 to the cultivation of certain crops. Staple crops were
369 cultivated in limited acreages on about half of all town

241 And finally, livestock
369 husbandry was much more widespread on town allotments than
231 on bush allotments.

241 Current Trends and Developmental Paths

178 Based on the nature of the Tongan agricultural system in 1971-72, there seemed to be some definite trends within the system and developmental paths that it might follow, all of which should lead to more intensive use of the land and increased productivity. Some of these trends or possible developmental paths include:

241 Decrease in Leasehold Land and Expansion of Bush and Town
178 Allotments

As leases expire, many are not being renewed and the
423 land is in some cases being subdivided into bush and town
[427] allotments. More recently, bush allotments are often four acres in size and town allotments less than one-quarter
241 acre. The existence of these smaller allotments should
178 lead to more intensive cultivation, as was the case with most of the sampled undersized allotments.

Increase in Scientific Farming Methods

[654] As a result of government encouragement and subsidies,
[242] there seems to be a definite increase in plowing and disc
[312] harrowing; the use of pesticides, fungicides, herbicides, and fertilizers; the introduction of new crop varieties; the use of fencing; and dependence on some form of irrigation.

245 654 435 Increased Coconut Acreage

Owing to the continued efforts of the Coconut Replanting Scheme and the high copra prices in 1974, there should be a major increase in the acreage of systematically planted coconut palms in the next five or ten years.

231 654 Possible Expansion of Livestock Husbandry

Because of government livestock subsidy schemes, there is likely to be an expansion of livestock husbandry and pasture improvement. The expansion of pig and poultry husbandry seem to offer the best prospects because of the limited land area and water resources on Tongatapu. Accordingly, Hardaker (1971:70) discouraged a widespread expansion of cattle ownership.

134 241 178 Declining Soil Fertility

Owing to the increasing cropping period and associated decrease in the fallow period, the inherent soil nutrient status and structure of Tongatapu soils have deteriorated considerably. In almost all cases, today's farmers feel that farmers of previous generations received much higher yields due to more fertile soils. The relative amounts of nutrients stored in fallow vegetation depend on the extent to which trees and shrubs have been destroyed, because grasses and herbs store relatively smaller quantities of nutrients. As a result, there is less addition of humus and nutrients to the soil both through litter and root production and through burning. Furthermore, the

98: Rowlands U-3 (no date) 1961
OU9 Tonga OU9

SATURDAY, November 12, was an important day for the members of the Tongan Women's Association, "KO E LANGA FONUA 'A E FEFINE TONGA", for it was the day of their Annual Show. Anxious glances had been cast at the sky, for the Show was to be held in the open air and the weather for some days had been uncertain. However, although the day was overcast, no rain fell and all was well.

Her Majesty Queen Salote Tupou, G.C.V.O., G.B.E., who is President of the Association and who has not missed a Show since the first one was held seven years ago, inspected the exhibits. She congratulated the women on the steady improvement in the quality of the work which had been shown throughout the years.

The Tongan handwork included mats, trays, baskets of various shapes, dress materials printed with island dyes, Tongan curtains and cushions and articles made from shells. A new section this year was that for baby baskets. Other items were soap, starch, buttons and ornaments made from Tongan materials.

The sewing section had men's coats and shirts, children's clothing, embroidered dresses, knitted articles, patchwork quilts and fancy work of various kinds. The cookery section included cakes, scones, bread, jams and jellies, cordials, puddings and various Tongan delicacies.

Evidence of the various interests which had been encouraged among the

[P.34-C]

women was given by the baskets of fruit and vegetables, and the collections of flowers from members' own gardens, as well as by the poultry, eggs, and even little pigs.

Her Majesty presented prizes to the successful competitors in all these sections, and also to the winners of the poetry contest.

Another feature of the Show was the report of the Public Health Officer on the inspection of villages. Shields were presented to representatives of the towns and districts which had been judged the best in sanitation and appearance. These shields for annual competition had been previously donated by Her Majesty Queen Salote, H.R.H. Prince Tu'ipelehake and a former British Consul in Tonga, Mr. A. C. Reid, and his wife.

The schedule has already been drawn up for the next Show, at which it is proposed to have special sections for those who have not previously won prizes.

[P.34-D]

/132 cont./

342 178 824 (231) the roof covering of the "better" houses, are today only occasionally added to the coconut leaves, and are very seldom used exclusively. The reason is said to be a great shortage of sugarcane leaves which is allegedly caused by horses that eat the young shoots.

342 178 (177) Aside from the growing use of new types of building materials (corrugated metal, tin and boards) and nails instead of lashings of coconut-fiber cords (kafa), one should note above all that the present-day dwelling of "ancient Tongan shape" is no longer "wall-less." The (824) mats on the weather sides, which could be lowered or hung up, have been replaced, in the types that seem "pure Tongan," by stationary walls that consist either of coconut-leaf mats (plaited halves of leaves) fastened to slender lateral posts, or are made of reed (kaho) which, in a decorative arrangement, is stuck into the ground along the wall line all around the house and is bound together with coconut-fiber cords. Such "stationary walls" seem to have originated a long time ago. (355)

355. For example, Th. West, 90 years ago, described these stationary walls (Th. West, Ten Years.../cited in English/ p. 45.

342 177 178 The average house of this type today has three door openings: two opposite each other in the center of the long sides and one on the narrow side that is not part of the sleep section. In some houses whose owners did not have any boards when the houses were built, or who attached special importance to building "purely Tongan," knotted together coconut-leaf mats that can be lowered constitute the "door." On other houses of this type boards are used as door frames to which doors made of boards are fastened with metal hinges. In general, these houses with coconut-leaf or reed walls have no windows. As a result of strong solar radiation, a certain amount of translucence of the

/162 cont./

245 huo spade they dig holes approximately 50 centimeters deep (diameter 25 to 30 centimeters) in which they plant a sprig (root sucker). They fill the plant hole with earth so that a depression remains in which water from rainfalls can accumulate. The distance between plants is about five meters on a flat area. Every three weeks or so they remove the proliferating weeds with the huo lafa-lafa. After six to nine months the first fruits can be harvested.

niu = Coconut Palm (Cocos nucifera L.)

824 178 Since the settlement of the Archipelago the coconut palm has played a very special role in Tongan culture. At the present time in particular, in view of its extraordinarily manifold uses, (426)

426. The following list will show the all-purpose uses of the coconut palm in Tonga; ("old") and ("new") indicate whether or not its utilization was already common in ancient Tonga.

[262] [252] [231] [303] [372] 1. The meat of the nut (kakano 'i niu): eaten in pieces by the natives (old); grated (or squeezed out as coconut milk) for preparing foods and beverages (old); grated to feed chickens and pigs (old), used in pieces to feed pigs (old) and horses (new); used for making copra (new); the oil obtained from the meat is used to make hair oil and body oil (lolo Tonga) (old), to fry in a pan (new) and to burn as fuel in the absence of petroleum imports (old).

[272] [262] [264] 2. The water of the nut (huhu'a oe niu): especially of unripe nuts is drunk by the natives (old); in an unripe nut it is stirred together with the meat and eaten (old); used at meals to wash one's fingers (old).

[415] [372] [524] 3. The hard shell (Endocarpium) of the nut (nge'esi niu): used for making drinking mugs (old); as fuel (old) and (as charcoal) to heat flat irons (new); used as a child's toy su nge'esi niu ("coconut shell shoes," see p. 272 (new).

[283] 4. The husk (Mesocarpium) of the nut (pulu): used to make cord (kafa) for house and boat building, for fastening blades to tools etc. (old); used as cover for hatchets

/168 cont./

179
563
439 441. In 1951, for example, more than 74,000 crates of bananas were exported to New Zealand from Tongatapu and Vava'u.

have been started.

241
198 For the Tongans, their old crops and agricultural methods suffice. As in old times, the individual scarcely specializes in certain crops. The same things are generally planted on all the islands. With their customary plantation work, to which the Tonga cling conservatively and which, after all, produces good yields for a limited amount of work, they are fully occupied, according to Tonga notions, and not much inclined readily to adopt proposals for innovations. Moreover, [137] the plants introduced by Europeans were often set in suitable soil and, above all, the very careful maintenance that is often required does not seem feasible to most Tongans.

231 b) Animal Husbandry

In ancient Tonga, pigs and chickens (442)

442. See G. Forster, loc. cit. V. p. 150.

231
136
179 were the only domestic animals. Even today, they are still the most useful animals for the natives, even though, since the second half of the 18th century, Europeans have made numerous attempts to naturalize other domestic animals in Tonga. Only the horse was able to achieve a certain importance, since it proved very useful as riding, pack and draft animal for transportation to the distant plantations of some of the villagers. Cattle, goats and ducks are kept by only a few natives, and the importation of sheep and geese was quite unsuccessful. Cook probably brought the first dog to Tonga and it was brought from Fiji at approximately the same time. (443)

443. See J. Cook, Beschreibung...loc. cit. p. 233.

231 Today, one may probably come across dogs in all Tongan villages, though they are not regarded as regular domestic animals by most natives.

/168 cont./

231 [136] [177] Only a few Tongans were interested in the cats which Europeans imported.

The following survey may give an idea of the numerical proportion of the individual domestic animals. The data were obtained in April 1952 in 'Uiha/'Uiha, a typical village of the more remote islands, and in May 1952 in Fungamisi/Vava'u, a village adjacent to the rather large seaport of Neiafu:

231 184 422 [126]

/169/'UIHA:

Domestic animals (including young animals)	In possession of all 99 households checked	per household
Pigs	917	0(444) --35
Chickens	1095	0(445) --54
Horses	54	0 -- 3 (446)
Cattle	1	0 -- 1
Goats	31	0 -- 5
Ducks	33	0 --10

FUNGAMISI:

Domestic animals (including young animals)	In possession of all 42 households checked	per household
Pigs	109	0(447) --20
Chickens	547	0(448) --50
Horses	38	0 -- 4 (449)
Cattle	14	0 -- 4
Goats	6	0 -- 3
Ducks	21	0 --10

444. Of the 99 households only three have no pigs.

445. Of the 99 households 13 have no chickens.

446. Only one household has three horses.

447. Nineteen households have no pigs.

448. Nine households have no chickens.

449. Only one household has four horses.

/169 cont./

231 184 According to these figures, pigs and chickens, the domestic animals of ancient Tonga, occur most frequently in 'Uiha and Fungamisi. The difference with respect to the rest of the domestic animals is more striking in 'Uiha than in Fungamisi. In the latter village, its 231 184 432 (245) nearness to the seaport of Neiafu is a factor; the natives probably feel it is more profitable to use their coconuts for copra production (the copra receiving station of the government is not far from the village) than to breed pigs more extensively, especially since the latter can be replaced by corned beef and salted meat which is easily obtainable in Neiafu. The cattle raised in Fungamisi can be profitably sold to merchants in Neiafu.

231 In general, there is no intensive animal husbandry in Tonga, such as the European is accustomed to. Stalls and fenced-in areas are (272) (262) (239) practically unknown. /170/ Milk, eggs and manure are not used. The following survey may give an idea of animal husbandry in Tonga:

Pig:

231 136 This domestic animal of ancient Tonga no longer exists in its original form. Sailors, missionaries, other whites living in Tonga, as well as members of the Tongan government have, in the course of time, brought a number of pigs of various strains to Tonga. This seems to have improved the old Tongan breed of pig which was probably smaller. A clear racial identification is no longer possible because of the various crossbreeds.

231 262 594 Pork is by no means a daily food; the natives usually slaughter the animals only for festivals and other special occasions (for example, a visit of a member of the royal family), just as was customary among commoners in the past. (450)

(113) 450. See W. Waldegrave, Extracts from a private journal.../cited in English/ p. 187.

/170 cont./

262 Most chiefs probably eat less pork than they did in former times. (451)

451. Ibid., p. 187.

231 177 262 574 Since Christianization and democratization of the Archipelago has very much reduced the number of large festivals at which huge quantities of pork were consumed. (452)

452. See Th. West, Ten years.../cited in English/ p. 123.

it may be taken for granted that pig breeding as a whole is considerably less than it was in ancient Tonga.

231 The pigs usually run about freely in the villages; one very seldom sees them on a property in an enclosure of coconut palm palisades. They sleep under houses that are elevated or they burrow a pit for this purpose on the property of their owner. In the larger [656] towns of Nuku'alofa, Neiafu and Pangai keeping pigs in the settlements is forbidden by the government. There, only a few natives have pigs which they keep in special enclosures on the plantations or shut them 231 up in large hollow trees. Some years ago, keeping pigs in the 656 villages was forbidden (for hygienic reasons). The natives, however, clung so tenaciously to their old system that this regulation endangered pig breeding as a whole, hence it had to be relaxed.

231 The natives feed their pigs the cut-up meat of ripe coconuts, cooked or raw manioc roots, sweet potato leaves and food leftovers; piglets are given chiefly mashed meat of green coconuts. The pigs whose owners keep them on short rations often break into the plantations and there appease their hunger. To judge from old sources, people in former times kept better order in this respect. (Now and then in bush land there are pigs that have become wild.) Their drinking water the animals usually find for themselves (marshy pools, puddles).

[232] Since old times the natives have known how to castrate boars (453)

/170 cont./

231
[232]

453. See J. J. Labilladière, Relation du Voyage... /Account of the voyage.../ II. p. 149.

and do so today in order to obtain more tender meat.

Chicken:

231
235
[178]
[262]

The--still mostly semi-wild--chickens have approximately the same importance in the economy of the commoners as in older times. They too are not part of the daily food, but constitute the "reserve" for various (festive) occasions /171/ when a pig need not be slaughtered and one can make do with a chicken. Most of the nobles today act in the same way, in contrast to past times. (454)

454. See, for example, W. Waldegrave, Extracts... p. 187.

Chickens are free on village properties and also on the plantations. They usually roost in trees. Thay are quite timid, especially on the plantations. (There, for feeding, they are still sometimes called out of thickets with the conch shell.) Chickens are fed the grated meat of ripe coconuts; but they find a large part of their necessary food by themselves. The natives generally pay little [262] attention to their eggs which they lay in the bush and in hidden places in the village.

Horse:

231
492
[136]

Horses were repeatedly brought to Tonga by Europeans. But it has only been in the last eight decades that the Tongans, to an increasing extent, realized how useful these animals can be to bridge the often great distances to the plantations. The natives have become quite skillfull riders, and especially the young often race over the bad roads in the bush land at a bold gallop. Impromptu horse races are [541] quite popular in some places (for example, on Tongatapu and Vava'u). The natives ride without a saddle or, instead, use an old European sack or a bundle of dried banana leaves. On such pads they frequently

/171 cont./

231 492 transport to the village their tubers, coconuts and other plantation products in a sack or coconut-leaf basket that lies crosswise in front of the rider. The owners of European two-wheel carts (455)

493 179 422 455. In the various villages, some one-eighth or one-fourth of the households own such carts.

can bring heavy loads home with their horses; the harness consists of a leather collar, a wooden back yoke /?/ /Ruckenbugel/, iron head harness and lines; a twig serves as a whip. Sometimes they also slaughter horses which they like to eat occasionally. 262

231 The Tongan makes horse-raising very comfortable for himself. There are no stalls or enclosures. He tethers his horse near his house in the village, so that it can graze, or he ties it to a tree on the plantation where it can find its food. Water shortage makes it necessary to lead horses specially to watering places, which is not always easy. On the plantations horses often cause considerable damage, especially if they break away. The Tongan does not know how to look after horses and groom them. He often continues to use them as riding and pack animals even when they have open wounds on their backs as a result of improper treatment. 492

439 The horses imported mostly from Australia and New Zealand are said to have decreased after a few generations, probably because of changed living conditions.

Cow:

136 This domestic animal repeatedly introduced to Tonga by whites has to this day not become prevalent or of importance on the islands. Very few natives keep cattle, which are chiefly thought of as furnishing meat; cows are not milked. The animals are tethered on a rope on the plantations, so that they can find their food within a circumscribed area. Sometimes the natives lead them to a watering place, but they also leave them a few days or even weeks in one place,

/171 cont./

231 without bothering about them, so that some cattle were near /172/ death from thirst or actually died. On Nomuka there is a group [476] (kautaha) of Tongans who jointly own a herd of some 20 cattle that are left on the usually unoccupied neighboring island of Nomuka Iki and live there half-wild without any particular care; if the men want to slaughter one of these animals they usually shoot it.

Goat:

In goats, too, which were brought to the Archipelago, the Tongans so far have not shown much more interest. The natives who own such animals tether them on their property or tie them to a tree on their [262] plantations, so that they can find their own food. Only the meat of goats is used.

Duck:

231 A few natives on some of the islands keep ducks, which have also 235 been introduced in Tonga by Europeans. Aside from the slight [136] interest of the Tongans for these animals in general, it is the lack of running and still fresh water which very much prevents a widespread occurrence of ducks in the Archipelago.

Dog:

231 The number of Tongans who regard a dog as their property and give it food is small. Nevertheless, there are dogs in all villages, the majority of which are very skinny, neglected mixtures of various breeds. They usually have to seek their own food, and they suffer, especially in times of drought. The villagers, most of whom treat their dogs brutally, nevertheless like to use them to keep watch over [262] straying pigs. Seldom are better fed dogs slaughtered to be eaten (as they were even a century and a half ago). (465)

456. See J. Martin, loc. cit. I. p. 265.

/172 cont./

Cat:

231 [136] Cats, which were likewise brought to the Archipelago by whites, are kept only now and then by natives to protect their supplies from mice. In the bush, wild cats occur now and then.

[178] To sum up, we may say about animal husbandry that, as in old times, there is scarcely a Tongan household without domestic animals and that, as in those days, the pig and the chicken are the most important domestic animals for the natives. On the other hand, of course, the limited size of the islands, the small size of the individual property and the lack of water are reasons why no more extensive animal-breeding, especially of cattle, arose. On the other 231 hand, the reason why the change from their former circumstances is 178 but slight may be found in the Tongans themselves, who apparently feel no necessity to alter their traditional economic system which is quite sufficient for their needs; in their raising of domestic animals--which might almost be called extensive--/173/ they leave a great deal to chance and shy away from the trouble which profitable pig and chicken raising, and especially systematic cattle raising (which is to a small extent possible even on 8¼ acres) entails. The [262] Tongans do not recognize the advantage of a better meat supply and the [272] use of manure, or else these advantages do not seem to them worth- [237] while, and the prospect of milk is not at all tempting for most of them, (457)

[439] 457. Imported, sweetened condensed milk has had a limited distribution in the Archipelago, which is probably due to the fact that the Tongans are very fond of sweets and that, in their eyes, this canned milk is very different from fresh cow's milk.

just as they do not care for eggs.

/194 cont./

252 178 were then ultimately eaten or baked in this state, has almost completely fallen into oblivion. This may be attributed to the fact [177] [439] that today imported foods are available on all the islands of the Archipelago and that therefore stockpiling (for periods of shortage as a result of drought or storms) seems unnecessary! The fish that are caught are sometimes eaten /195/ raw, as in former times, (501)

501. See J. Martin, loc. cit. I. p. 197.

sometimes roasted in embers (ashes) or they are stewed, wrapped in banana leaves, in the earth-oven. (502)

[251] 502. Occasionally, they also preserve fish(for example, the 'ava on Nomuka), by cutting them open, cleaning them, salting them, hanging them up in the sun (with small sticks wedged into the fish to keep the two halves apart) or laying them out on platforms and then smoking them; octopus also often dried among the Ha'apai group.

Fish broth (with coconut milk) is still quite popular, as it was in ancient Tonga. (503)

503. See J. Cook, Beschreibung...loc. cit. VI. p. 161; J. Martin, loc. cit. II. p. 285.

231 The natives generally slaughter pigs and chickens as in olden times by stunning them; (504)

504. See J. Cook, Beschreibung...VI. p. 228; J. Martin, loc. cit. II. p. 282/283.

[177] larger pigs are shot. Nowadays they occasionally also slaughter animals according to the Jewish rites.

252 177 Among European foods, canned corned beef has gained special significance. They eat the meat either without any further preparation, or they heat the cans, but they also stew the corned beef in the earth-oven together with tubers by wrapping it in banana leaves and adding

/258 cont./

534 [202] instruments; they were used to give signals (as they sometimes are even today).

534 178 [231] The rhythm-stampers, the beating sticks (697)

697. Very occasionally, however, one still sees on plantation land on the small islands two slim trunks lying over a pit; the natives drum on these with two sticks and produce various tones to call the chickens for feeding.

and the nafa slit-drums, as well as the panpipes are today no longer found in Tonga. There are only a very few examples of the nose flute in the Archipelago, and very rarely an aged native will bring out such an instrument and play a few tones on it; (698)

[162] 698. On the island of Nomuka (567 inhabitants), for example, there was only one nose flute in 1952, and its aged female owner was unable to play it; among the people there was only one man who was able to blow a short and incomplete melody on it.

very probably the nose flute, which was apparently seldom used even in Mariner's time (that is, at the beginning of the past century), will soon be forgotten.

534 /259/ To accompany the ma'ulu'ulu dance the Tongans in modern times have made a drum which they call nafa. This instrument that is widespread today has only its name in common with the ancient [177] Tongan nafa, which was a cylindrical slit-drum, for it consists of an old metal can with the bottom and top removed and the resulting open sides stretched with animal skin (of cow, horse or goat). This drum is beaten with sticks that have been made like European [178] kettledrum sticks. To accompany the me'etu'upaki, an old Tongan [202] dance, natives today use, instead of the nafa slit-drum customary in former times, the lali slit-drum, (699)

699. The lali are about 1.60 to 2.00 meters long

T G 671 177

/319 cont./

much as in Tonga--almost all of life is ruled by law, in accordance with British legal thought (allowing for the old laws and customs of the natives). Here too, jurisdiction is largely in the hands of native courts. However, since the administration of justice of the Baganda was more highly developed in pre-European times than was that of the Tonga, and the protectorate power could, to a certain extent, build on this, the break with the past does not seem as great in this area as it doubtless was in the Archipelago.

T G 672 177

G 342 177

With respect to economic life, it is first of all worth mentioning that the Baganda likewise have largely given up their traditional dwelling in favor of a somewhat European building style. Though they still use primarily native materials, a more durable, more fireproof and "impressive" corrugated metal roof is the wish of almost every Muganda. The household equipment of these natives, quite like that of the Tongans, has been added to and changed by European items.

T [199]

G 241 177 178

The actual means of subsistence has also been little changed in this Protectorate in comparison with the past, for the economy has remained an agricultural one; all classes of the population are closely linked to the land from which they obtain their entire food necessary for life; planting methods have not been changed and the old crops have no been replaced. Nor have the Baganda by any means gone over to an agricultural enterprise in the European manner (cultivation closely tied in with animal husbandry), and they show an attitude to animal raising similar to the Tonga, using their goats mostly as slaughter animals and usually dispensing with the milk. Cattle raising which they have carried on since ancient times, in contrast to Tonga, /320/ has lost a great deal of importance as a result of sleeping sickness and other epidemics, and today landed property is more in demand than livestock.

T G [231]

T G [233]

G [423]

241
245 most important being coconut. The coconut, though representing the majority of cash-earning export production, is also an important
[262] domestic food source. Coconut flesh and cream are integral parts of
[824] practically every Tongan meal. In addition, products of the coconut palm are also important to other aspects of Tongan life, from house construction to production of a shopping basket for marketing.

241
249 A second important supplementary agricultural crop is kava.
276 The roots of this plant are dried, pulverized, and mixed with water to produce what could be called the Tongan national beverage. Although the taste is somewhat alien to a non-Tongan palate, the only observed immediate physical effect of this drink was a slight
[142] narcotic quality.[1] Prolonged consumption, however, was noted to cause a darkening and scaling of the skin, evidenced in some older Tongans.

241 A third supplementary plant is the papaya, which is only
245 infrequently cultivated for its fruit, and usually grows totally
262 unaided. While foreigners find the papaya to be a welcome addition to the principally tuber diet of the Tongan, it is, strangely, a
262 native food viewed with low status. Few interviewees admitted to
231 consuming papaya regularly, and frequently described the fruit as being pig food.

---

[1] On several occasions young Tongan men, having consumed a large quantity of the kava drink, or "Tongan beer" as it is commonly referred to, were observed to be thoroughly intoxicated. However, experience indicated that enormous quantities of the drink are necessary to produce anything more serious than a mild headache. From all indications, the intoxicating effect is quite simply psychological, rather than physiological, although all Tongans questioned will attest to the contrary.

101: Clark K-4,5 (1974) 1 :78 OU9 Tonga OU9

231 In addition to traditional cropping, livestock also plays a significant role in the agricultural system of Tonga. The most frequently observed stock, owned by Tongans, included horses, cattle, goats, pigs, chickens and a variety of other fowl, such as guineas, geese, ducks and turkeys. Table 14 provides a breakdown of these groups for the entire Kingdom, for the year 1973. Additional information, acquired during village surveys, is summarized in Table 15. Survey results indicated that horses and cattle are raised most frequently by rural residents. On the other hand, goats, pigs and fowl are kept in approximately equal quantities in both rural and urban areas, except in regions of high population density in Ha'apai and Tongatapu, where a larger proportion of scavenger stock was noted.

TABLE 14.--Livestock Census: 1973.

	Cattle	Pigs	Horses	Poultry
Tongatapu	1,836	13,962	2,306	31,377
Ha'apai	216	9,443	1,289	11,097[b]
Vava'u	637	9,443	1,467	16,148
'Eua	724[a]	2,115[a]	530[a]	2,714[a]
Niuatoputapu	--	1,643	218	1,843
Niuafo'ou	--	1,007[b]	117[b]	1,623[b]
Total	3,413	37,613	5,927	64,802

[a]1971.
[b]1972.

SOURCE: Report of the Minister of Agriculture 1973 (Nuku'alofa: Government Printer).

101: Clark K-4,5 (1974) 1978 OU9 Tonga OU9

231 TABLE 15.--Livestock Owned by Tongan Households: Sample of 265.

	Households Owning (%)	Mean Owned per Household	Range of Ownership	Total No. of Livestock Owned By Entire Sample
Horse	38	1.0	1-6	98
Cattle	12	4.0	1-12	124
Pigs	55	4.9	1-48	700
Goats	27.5	2.5	1-8	179
Total fowl	70	20.2	1-50	3,676

[101] SOURCE: William F. Clark, data collected through personal survey, Kingdon of Tonga, August-October, 1974.

[438] [439] Livestock, as a food source or a cash product, is raised almost exclusively for the domestic market. Very little of this produce is exported to neighboring nations. In addition, the domestic role of livestock is complex and complicated by tradition. 262 Pork is consumed more frequently than any other meat source, excluding 272 fish, and with the possible exception of poultry. Fresh milk, for feeding small children, is usually in short supply, although the large number of goats on the islands represents a potential source of milk protein. Tradition, however, undermines the widespread use 262 of goat's milk. Food production and consumption patterns in traditional Tongan society are more often influenced by social custom than by need.

231 492 Survey results indicated that horses are owned by 38 percent of Tongan households, and are used as a means of transportation.

231 Horses are most frequently used for transporting agricultural produce
492 from farm to village markets, either as pack animals or in con-
231 junction with a cart (Plate 9).[A] Despite their obvious usefulness, horses are largely uncared for in the Kingdom, being frequently overworked and then tied in the bush or village with insufficient food and water. As a result, many of the animals evidence gross nutritional deficiencies and, subsequently, operate far below their potential.[1]

Cattle were reported as being owned by 12 percent of the surveyed households. Generally speaking, these households had access to more land than the average, and therefore could allot land for pasture in addition to agricultural cultivation. Cattle are not an integral part of Tongan agriculture, and at present provide only limited quantities of meat and milk. Although past attempts to establish herds on Tongatapu and 'Eua have met with varied success, cattle are not expected to become a significant factor in Tongan [245] agriculture. Occasionally, cattle are grazed on cash crop plantations (i.e., coconut), in an attempt to reduce the grass and weed

---

[262] [1]The plight of the horse is similar to that of the dog, a frequent food source in Tongan society, in respect to general care. Both have a marked dependency upon man for food and care. In the case of cattle, status insures the well-being of the animal, while pigs, goats, and fowl are able to sustain themselves as efficient scavengers. However, the domestic dog evidences neither characteristic, and is often in a state of starvation, due to his dependency. The same is true of the horse. Therefore, a seemingly contradictory image of livestock is found. Poorly maintained horses, which are essential to agricultural transportation, and dogs, which provide a food source, exist in conjunction with healthy pigs, goats and fowl, the scavengers of Tongan agriculture.

[A] [Due to poor quality of original, plate has not been marked for a Category--Analyst.]

cover, which is attractive to rats. However, the initial expense of cattle, plus continued capital outlay for maintenance, substantially reduces the profitability of this scheme.

Goats were owned by 27.5 percent of the total survey sample. Although a potentially valuable source of meat and milk, roaming goats cause considerable crop damage in Tonga. The goat is one of three scavengers, competing with pigs and fowl for household refuse and other edible items. While goats are occasionally used for meat on special occasions, the pig is considered to be a much more prestigious food or gift. In addition, because of the low status ascribed to goats, use of goat's milk is avoided. Thus, the role of the goat in Tongan agriculture is expected to remain one of little significance.

Pigs are the most prestigious livestock raised in Tonga, and were owned by 55 percent of the survey sample. As mentioned previously, the pig is a meat source used for important social functions and traditional gifts. Being the most common of Tongan livestock, the pig plays an indispensable role in the control of garbage and refuse, plus provision of meat protein. Most households own several pigs, raising them as a food source or as a means to fulfill a variety of social obligations. It is not uncommon for taxes, debts and other financial obligations, especially to the nobility, to be paid with one or more pigs. Pork is not included in the average Tongan weekday diet, being consumed primarily during main Sunday meals or at feasts.

101: Clark K-4,5 (1974) 1978 OU9 Tonga OU9

231 Being a scavenger, the pig is generally allowed to roam unrestrained, although laws prohibit the animal from being untended in major urban areas of each island group. However, enforcement of these laws appeared to be quite lax. Roaming animals were frequently noted on the periphery of the main business sections of Nuku'alofa and Neiafu, as well as entering and leaving the royal grounds in Nuku'alofa. In villages, pigs are occasionally confined to prevent crop destruction. However, it was observed that confined pigs appear less healthy than those left unrestrained. This is probably the result of poor environmental management, plus the disruption of scavenging.

Seventy percent of those surveyed owned some variety of fowl, with chickens being the most frequent. Fowl, which represent the third scavenger in Tongan agriculture, are seldom confined. Their major food function is the provision of meat, since eggs are seldom collected. The sale of eggs was noted only infrequently, and at a price prohibitive to the typical Tongan. A single egg may sell for as much as 13 cents. Most eggs are left undisturbed to hatch, although more than half of any given brood dies from dampness or destruction by other animals. Thus, lack of management successfully eliminates the utilization of eggs as a food source, plus severely reduces the number of fowl available for consumption.

262 438 435

To summarize, livestock ownership remains largely a matter of status, often exemplifying more value as a product of social exchange than as a source of food. The maintenance of stock is

101: Clark K-4,5 (1974) 1978 OU9 Tonga OU9

231 frequently nonexistent and the well-being of large numbers of pigs, goats and fowl throughout the Kingdom depends greatly upon scavenging.

237 241 An advantage of livestock production almost totally neglected in Tongan agriculture is the production of manure. The process of applying manure to soil is not traditional in the Tongan agricultural cycle, and the basic concept is, for the most part, not understood (Hougland 1974). Annual manure production per animal varies as to diet and amount of feeding. Table 16 indicates the amount of potential fertilizer (i.e., animal manure) which can be returned to the soil. Table 17 provides additional data, including the amounts of the three macro-nutrients available per ton of animal manure, essential for maintaining soil fertility.[1] Collection of manure would require containment of stock, or at least confinement to the boundaries of the 'api, thereby bringing about direct return. Only a small minority of Tongan allotments are fenced, the required cost and labor being considered excessive.

231 Livestock is expected to retain its traditional role in the agricultural system of Tonga. The potential upgrading of stock, as well as the full utilization of this agricultural component, is directly determined by Tongan farming traditions. Thus, while fulfilling an unintentional role as scavengers, livestock will probably

---

[231] [1]The average stock-owning household may claim ownership of twenty fowl, two goats, five pigs, four cattle and one horse (Table 15). No individual household in the survey completely owned this number of animals, due to combination ownership. However, only five percent of the surveyed households owned no stock of any type.

237
231

TABLE 16.--Livestock Production of Manure Per Annum.

	% of Total Sampling Owning	Mean Per Owning Household	Manure Production Per Year, Per 1,000 Pound Live Weight (ton)	Estimated Average Weight Per Mature Animal (lb.)	Total Manure Production Per Year (ton)
Horse	38	1.0	12.00	900	10.8
Cattle (cow)	12	4.0	15.00	1,100	66.0
Pig	55	4.9	18.25	200	17.9
Goat (sheep)[1]	27.5	2.5	9.75	70	1.70
Fowl (all types)	70	20.2	4.50	3	0.27

[1]Data for goats was not available.

SOURCE: D. Acker, Animal Science and Industry (Englewood Cliffs, N.J.: Prentice-Hall, 1971, p. 169.

101: Clark K-4,5 (1974) 78 OU9 Tonga OU9

237 TABLE 17.--Approximate Soil Nutrients Per Ton of Manure.

	Nitrogen (N) lb.	Phosphoric Acid (P_2O_5) lb.	Potash (K_2O) lb.
Horse	13.2	5.1	12.1
Cow	11.4	3.1	9.9
Pig	9.9	6.7	9.3
Sheep	115.8	6.7	18.0
Hen	21.0	16.4	10.2

SOURCE: D. Acker, Animal Science and Industry (Englewood Cliffs, New Jersey: Prentice-Hall, 1971.

231 remain most important as an instrument within the Tongan social structure.

Cash Cropping

241 The crops grown primarily for the international export
245 market are coconuts and bananas, although vanilla, melons, fruits and vegetables are also produced in less significant quantities. Survey results, substantiated by personal observations, indicated that most landholdings are at least partially planted with coconut palms, while many 'apis of Ha'apai and Vava'u are totally
241 planted in palms. As the desire or necessity for cash income increases, a greater proportion of the typical 'api will be planted in some type of cash crop.

245 Coconut surpluses, beyond the needs of the family, are usually
439 sold as copra to the Tonga Copra Board. Bananas in surplus are sold